THE OIL WEEKLY

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The Oil Man's Calendar

APR. 24–29	Oil-World Exposition, Houston, Texas.
MAY 2– 5	Petroleum Electric Supply Association, Houston, Texas.
2– 5	Petroleum Industry Electrical Association, Houston, Texas.
3– 5	Natural Gasoline Association of America, Tulsa, Oklahoma.
4– 5	Oilbelt Safety Conference, Abilene, Texas.
8–11	American Gas Association, Natural Gas Division, Tulsa, Oklahoma.
9–11	American Institute of Chemical Engineers, Arkon, Ohio.
15–18	American Petroleum Institute, Mid-Year Meeting, New Orleans, Louisiana.
18–20	National Oil Scouts Association, Houston, Texas.
21–25	National Association of Purchasing Agents, San Francisco.
JUNE 3	Illinois-Indiana Petroleum Association, Robinson, Illinois.
15–16	Pennsylvania Grade Crude Oil Association, Hershey, Pa.
JULY 10–17	American Institute of Mining and Metallurgical Engineers, Regional Meeting, San Francisco, Calif.
AUG. 1– 6	The Eastern United States Michigan Oil & Gas Exposition, Mt. Pleasant, Michigan.

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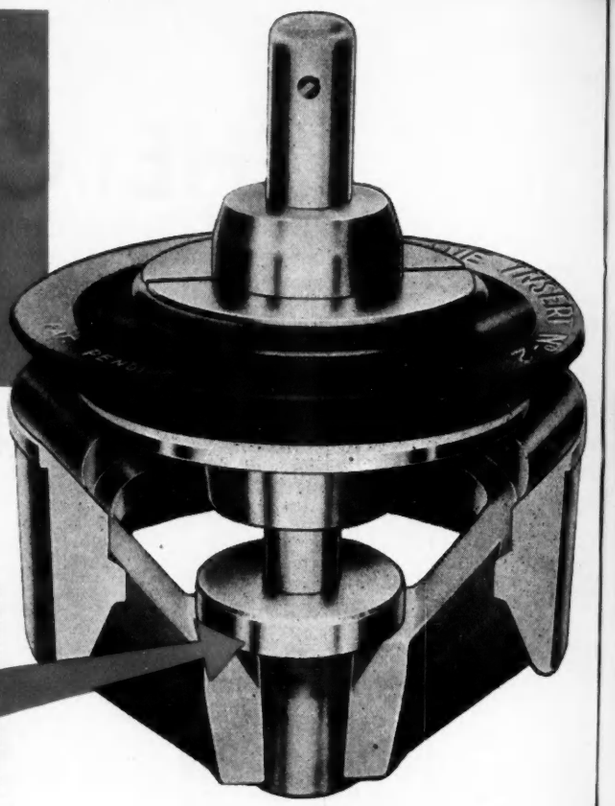

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This Week's Panorama

ENCOURAGING has been the general strengthening of the oil industry's markets within the past two weeks, from well to service station, although the market improvement has been accompanied by unwarranted stepping up of crude oil production and refinery runs.

The better markets may prove short-lived unless strict control is maintained over wells and refineries.

Gasoline Stocks Increased

Gasoline inventories are around 10 percent larger than economically desirable, and yet crude runs to refinery stills were sharply increased in the week ended April 15, with the result that the gasoline stocks were further enlarged, at a time of year when they normally should have been reduced.

Crude Production Excessive

The heavy refinery runs that resulted in the contra-seasonal increase in gasoline stocks undoubtedly were due in large part to the current over-production of crude oil.

Too much crude is being produced, and in handling the surplus, the industry is obliged to run more crude through refinery stills than otherwise would be run.

Stricter Curtailment Essential

Effective crude control is a prerequisite for economic regulation of refinery runs, and stricter curtailment of crude production than that now prevailing will be necessary in coming months if the industry is to maintain gasoline inventories at levels which will permit stable markets and satisfactory prices during the heavy consuming season.

May Allowables Awaited

Some indication will be given shortly as to what to expect for May in crude oil production curtailment, as allowables for the month will be promulgated within a few days in some of the leading producing states.

Awaited with particular interest is the Texas Railroad Commission's proration order for May, as the Texas allowables will have a dominant influence on the national crude control situation.

In the past, Texas held production consistently within market demand for Texas oil, and for the United States as a whole, production was held closely in line with requirements. But under orders issued for April, Texas output has exceeded demand, and United States production similarly has been excessive.

Aside from the direct effect on national curtailment, Texas allowables also have far-reaching indirect results, encouraging strict allowables in other states when moderate but on the other hand promoting lax control when high.

In the week ended April 15, United States crude oil production was approximately 60,000 barrels a day greater than the indicated market demand, as estimated by the Bureau of Mines; and the average daily output in Texas was about 23,000 barrels above demand.

Following the April 17 hearing of the Texas Railroad Commission, it was intimated that the state allowable for May would be within demand as estimated by the Bureau of Mines, although it remained to be seen what output the order actually would permit.

Gasoline Prices Improve

The past week brought some further advances in both wholesale and retail prices of gasoline. All grades were marked up generally another ⅛ cent a gallon at Oklahoma-Kansas refineries, as demand continued brisk, with inter-refinery sales augmenting business volumes. Corresponding increases were made promptly in tank car prices in the Chicago marketing area.

The four grades of gasoline are now priced at Oklahoma refineries within a range of 4 to 5 cents a gallon. A month ago the range was 3¾ to 5 cents.

Still Under Year Ago

However, gasoline prices still are materially lower than a year ago. At this time last year the four grades of gasoline ranged in the Oklahoma-Kansas refinery market between 4⅜ and 5½ cents a gallon. Thus the refinery prices are still around ½ cent a gallon lower than a year ago, despite the recent improvement.

Dealer tank wagon prices of gasoline show even larger declines from a year ago, being nearly a full cent lower; and service station prices are similarly depressed.

Fuel Oil Markets Show Changes

While gasoline prices have been improving in recent weeks, the prices of light fuel oils have been losing ground with the waning of the season of heavy requirements for those oils.

On the other hand, the heavy fuel oils, used for industrial purposes, have continued to encounter improving demand, and the prices of those oils are tending to advance. Effective April 17, Standard Oil Company of Indiana advanced tank car prices of the residual fuel oils at its Whiting refinery by ¼ cent a gallon as applying to Bunker C grade and 1/10 cent a gallon on the lighter grades.

The company explained that the advance was necessitated by the prevailing supply and demand

situation; that surplus stocks had been eliminated and that demand had become strong in relation to supply.

Crude Postings Advanced

Despite the generally unsatisfactory crude control situation, the markets for crude oil lately have improved locally in several districts. Effective April 20, postings were advanced 5 to 7 cents a barrel in Central Michigan fields, following 10 cent increases (78 to 88 cents) in most Southwestern Michigan fields several days previously.

Effective April 18, the purchasers in the Shreveport field of North Louisiana increased the posting there 4 cents a barrel to a new price of $1.05. The increase was the third in recent months and put the price on a parity with postings for similar oils in other North Louisiana fields.

Storage Increase Impairs Gasoline Situation

The latest weekly statistics of the oil industry showed a definite impairment of the gasoline situation, which may be reflected promptly in the gasoline markets.

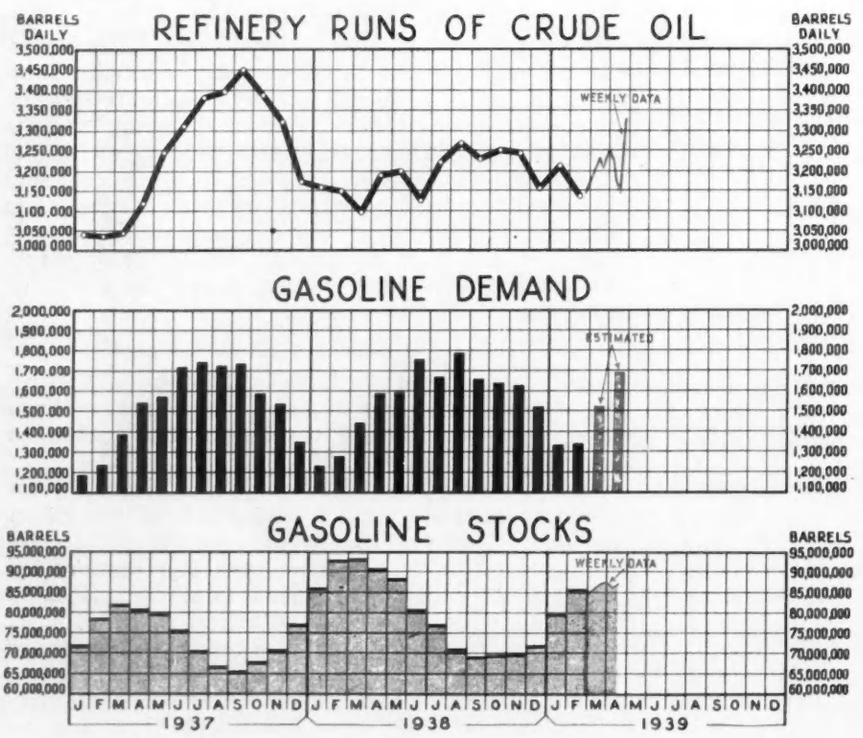
Stimulated by excessive crude oil production, refinery runs of crude were increased sharply in the week ended April 15; gasoline production was materially enlarged; and gasoline was forced into already excessive storage, although the industry normally takes gasoline out of storage at the middle of April, with demand seasonally increasing.

Refinery Runs Increased

The crude runs to refinery stills averaged 3,330,000 barrels daily in the week ended April 15, having been stepped up 185,000 barrels daily above the previous week's level. At the new rate, the runs were 5.7 percent heavier than in the corresponding week last year, when they averaged only 3,150,000 barrels daily.

Because of the sharply increased refinery throughput, gasoline production rose to 9,760,000 barrels in the week ended April 15 from 9,389,000 barrels the week before. The output was therefore 371,000 barrels greater for the week or up 53,000 barrels daily.

No part of this added gasoline production was absorbed by the markets. In fact, the markets would have failed to absorb even the output of the previous week. For while the gasoline production was increased 371,000 barrels during the week, 458,000 barrels of gasoline went into storage; the stocks of finished and unfinished gasoline in the United States having risen from 86,613,000 barrels on April 8 to 87,071,000 barrels on April 15.



Stocks Above Requirements

Even for success in holding gasoline stocks unchanged, therefore, the industry would have had to slightly curtail, rather than sharply increase, refinery runs and gasoline production in the week ended April 15.

But actually, gasoline stocks are regarded as being around 7,000,000 or 8,000,000 barrels larger than economically justified, and a reduction in storage would have been desirable.

Therefore, a substantial curtailment of refinery runs would have been economically warranted in the week of April 15, instead of the actual sharp expansion.

Gasoline Withdrawals Needed

It is true that gasoline demand is better this year than last year; that the Bureau of Mines estimated requirements would be 6 percent larger in April, 1939, than in April, 1938.

And it is true, moreover, that gasoline stocks are smaller now than a year ago, being currently 5.3 percent lower than at this time last year.

But it is equally true that last year's gasoline situation was highly unfavorable; that last year's record cannot sensibly be adopted as a pattern for this year's operations. The industry has not yet recovered from the ill effects of the surplus gasoline with which it entered the spring of 1938, gasoline prices being still at depressed levels.

The important facts to be considered in connection with the present gasoline situation are that stocks must be reduced to promote a stable market and that they were not reduced, but on the other hand were increased, in the week ended April 15.

Record Attendance Expected at Oil-World Exposition

THE second biennial Oil-World Exposition opens this morning with its finest display of oil field equipment, and indications of a record-breaking attendance.

Six hundred and fifty concerns have products on exhibit, with displays covering considerably more space than did the 1937 exposition.

Advance reservations for rooms have caused preparations to be made to handle an extremely large atttendance. Representatives of the industry from all active areas of the United States and many other countries have made known their intentions to be present.

The exposition, being held in the municipal Coliseum and adjacent space at Houston, Texas, will remain open from the morning of April 24 through the evening of April 29.

Besides the display of modern oil field equipment, the exposition's program will consist of an extensive technical program made up of numerous papers. Group meetings and conferences are to occupy a far more important part this year than before. These will continue throughout the week. Various committees, composed of both oil men and supply men, have been working for months in getting papers and speakers for these sessions. These meetings will be of interest to both the operator and manufacturer.

JOHN R. SUMAN
President, Oil-World Exposition
Vice-President, Humble Oil & Refining Company, Houston

Drilling and Production Papers

The drilling and production committee, headed by George Corless, Humble Oil & Refining Company, will hold five sessions. The first will be on Tuesday, April 25, at 2 o'clock in convention hall and will be devoted to prime movers in oil field operations. Six papers will be presented at this meeting.

This committee's program for Wednesday, April 26, will consist of drilling papers at 2 o'clock and a student contest in the evening. Both of these meetings will be held at convention hall. Six papers are to be delivered at the afternoon session. The evening session will be participated in by petroleum engineering students from universities located in Oklahoma, Texas and Louisiana. The students are to compete for eight cash prizes aggregating $300.

The drilling and production program for Thursday calls for two simultaneous meetings during the afternoon. At one of these, to be held in Room "C" on the balcony of the Coliseum, four papers will be presented on controlled directional drilling. The other, to be held at convention hall, is on the subject of well completion and production, and will consist of seven papers.

Geophysical Program

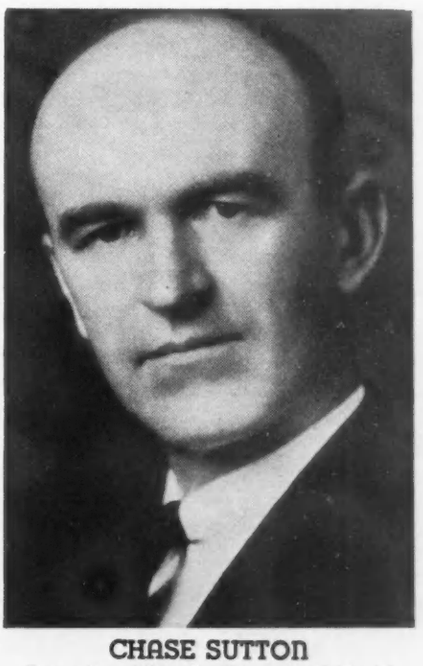
The geophysical program during the exposition consists of field trips on Tuesday and Thursday. Practical demonstration of the magnetometer, torsion balance and gravity meters will be made.

Pipe Line Meeting

Pipe line sessions will occupy the entire day on Tuesday, April 25, starting at 9:30 in the morning. These will consist of 9 technical papers, all by engineers with oil companies.

Export Meeting

On Monday, April 24, there will be a meeting to discuss the export situation. This is to be at 2:30



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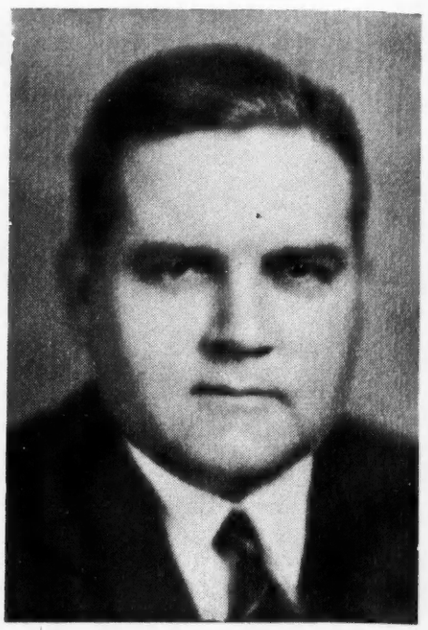


GEORGE A. HILL, JR.
Vice-President, Oil-World Exposition
President, Houston Oil Company of Texas, Houston

p, m., at convention hall. Papers to be presented include a wide range of subjects.

A foreign oil men's banquet, honoring visiting foreign men, is to be held at the Rice Hotel on Wednesday evening.

Transportation Meetings

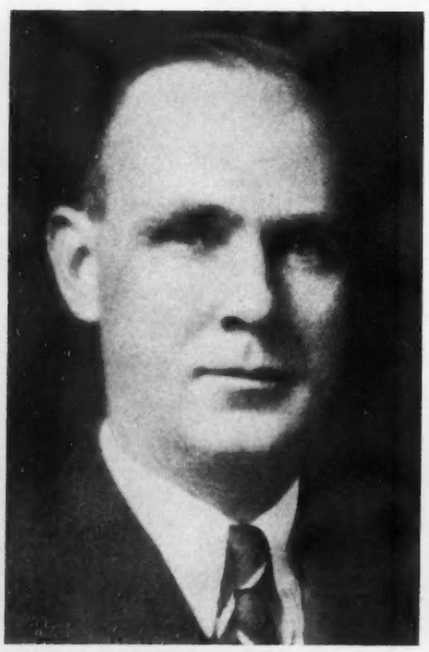
The motor transportation committee has arranged for several meetings. These will be held in the assembly hall of the Chamber of Commerce Building on the morning and afternoon of Tuesday and Wednesday.

Safety Program

A general safety stag party is to be held at 6:30 p. m. Thursday at Kelley's 910 Texas Avenue. The safety technical program will be held Friday morning, afternoon and evening. These will consist of papers, and the presentation of trophies and medals to those who have saved lives.

Refining Program

The refining committee has scheduled technical programs for Tuesday morning, afternoon and evening. Also on Wednesday morning and afternoon, as well as on Thursday morning and afternoon.



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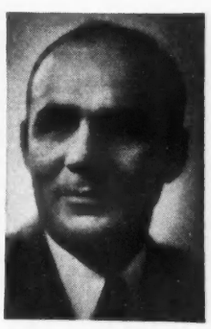

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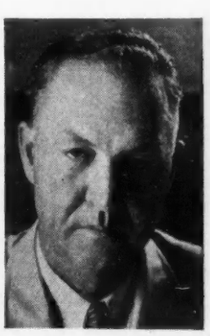

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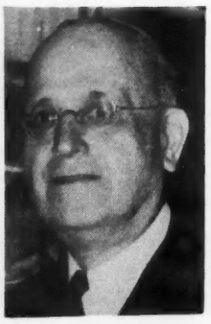

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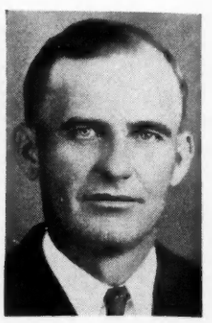

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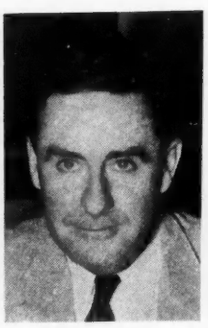

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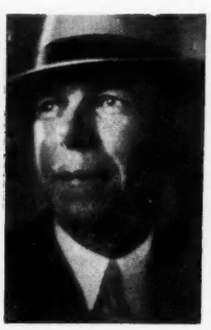

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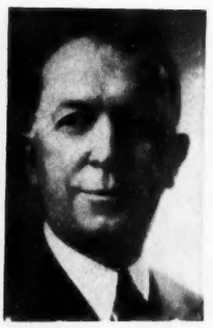

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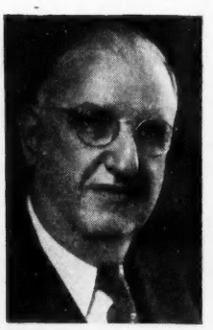

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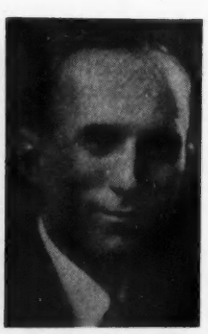

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Practical Water-Flooding Efficiency In Oil Production

By HARRY M. RYDER
Ryder Scott Company, Bradford, Pennsylvania

WITH operating expenses, especially taxes and labor costs, increasing steadily, and with no prospect for crude prices approaching those realized when flooding gained its great impetus, it is exceedingly important that flooding operations be carried out on an efficient basis.

Only by competently fitting the development plan and operating procedure to the sand conditions as they exist on the property in question can efficiency be obtained.

There is one best drilling pattern, well spacing and pressure for each property, under given economic conditions, but no one best plan for all properties.

In any one property, sand characteristics vary greatly not only from top to bottom of the sand, but laterally from well to well. For efficient operations these variations must be compensated for, and can be, in a practical manner by shooting according to conditions individually found.

Only by individually "tailoring" each operation to the sand conditions in each property and in each well can the most oil be obtained at the lowest unit cost.

This paper was presented at the Annual Meeting of the Eastern District, American Petroleum Institute Division of Production, Pittsburgh, Pennsylvania, April 4, 1939. The statements and opinions expressed herein are those of the author, and should not be construed as an official action or opinion of the Institute nor of this publication.

EFFICIENCY, or the lack of it, in any commercial or industrial pursuit may very well be responsible for the difference between success and failure. This is especially true today of water-flooding operations. With crude prices in the Bradford district much lower than when flooding gained its great impetus, and with taxes and other costs mounting, efficient operations become essential if the operator is to be able to show a reasonable profit.

Efficiency as here used concerns itself with the production of the maximum quantity of crude per acre at a minimum cost per barrel. Both of these elements are essential to the greatest success. Any economically recoverable oil left in the ground for any reason results in loss of efficiency just as truly as does higher-than-necessary cost of operation.

The ultimate cost of a flooding operation may be divided into interest, development and operating costs. This total, divided by the number of barrels produced over the life of the flood provides the per barrel figure. To reduce interest, development or operating cost without reducing the amount of oil produced is to directly reduce this cost. To do this and at the same time increase the ultimate production will further reduce the unit cost. This in many cases is entirely practicable.

The ultimate amount of interest paid is controlled by the rate of development, the volume of production and the time in which it is obtained.

The development cost involves principally the drilling and equipping of wells and the construction of a pressure plant and powers. This cost is directly affected by the number of wells provided for any given property and by the amount of water the property must be equipped to handle.

The direct operating expense includes as its more important items, labor, supplies and fuel. The labor and supply items will vary more or less in proportion to the number of wells on a given acreage. The fuel item becomes increasingly important in older floods, as the quantity of available gas rapidly diminishes, and as it becomes necessary to handle more and more water. When unnecessarily large quantities of water are handled, all of these costs rise.

Most Oil At Least Cost

To produce then, the most oil at the lowest unit cost, the following must be carefully considered.

1. Drilling pattern.
2. Well spacing.
3. Water pressure and quality.
4. Completion of wells, with special reference to the directing throughout the life of the flood of all water so far as possible to where it will do useful work.
5. Conservation of gas supplies.
6. Selection of machinery and other equipment to best fit the job.
7. Control of operations to do the work most effectively.

Every one of the items listed enters importantly into the unit cost of a flooding operation, and if this cost is to be kept at a minimum, all must be given careful consideration. For the present purposes, we will limit our discussion to the first four, as these have in common a dependence upon sand conditions.

Consider first the drilling patterns. Of these there are four, the 4-spot, 5-spot, 7-spot and 9-spot, as illustrated in Figure 1. It seems desirable to emphasize that in the water-flooding districts a single pattern is considered as having a producing well at its center, this well having intake wells arranged around it,

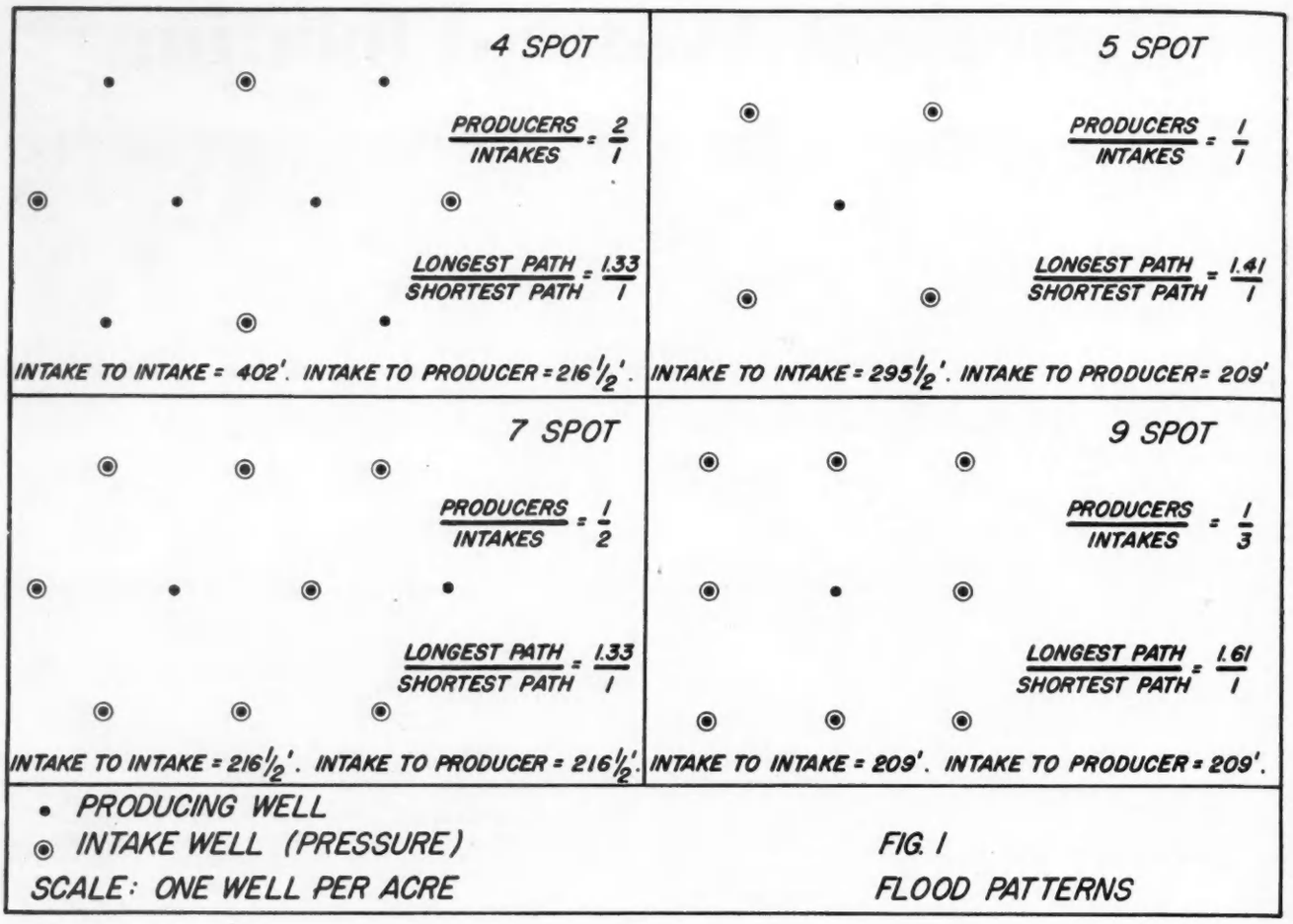

4 SPOT
PRODUCERS / INTAKES = 2 / 1
LONGEST PATH / SHORTEST PATH = 1.33 / 1
INTAKE TO INTAKE = 402'. INTAKE TO PRODUCER = 216 1/2'.
5 SPOT
PRODUCERS / INTAKES = 1 / 1
LONGEST PATH / SHORTEST PATH = 1.41 / 1
INTAKE TO INTAKE = 295 1/2'. INTAKE TO PRODUCER = 209'
7 SPOT
PRODUCERS / INTAKES = 1 / 2
LONGEST PATH / SHORTEST PATH = 1.33 / 1
INTAKE TO INTAKE = 216 1/2'. INTAKE TO PRODUCER = 216 1/2'.
9 SPOT
PRODUCERS / INTAKES = 1 / 3
LONGEST PATH / SHORTEST PATH = 1.61 / 1
INTAKE TO INTAKE = 209'. INTAKE TO PRODUCER = 209'.
• PRODUCING WELL
◉ INTAKE WELL (PRESSURE)
SCALE: ONE WELL PER ACRE

FIG. 1
FLOOD PATTERNS

rather than the reverse, as is sometimes spoken of in gas-repressuring areas.

The 5-spot pattern is most widely used, partly because of custom (it is the original all-over pattern) and partly because of simplicity in laying it out and in fitting it into property boundaries.

Muskat has shown from theoretical considerations the 4-spot or 7-spot to be somewhat more efficient as to recovery than the 5-spot, that is, other things being equal, more oil per acre can be recovered if the 4-spot or 7-spot pattern is used. Practical considerations lead us to the same conclusion.

Numerous field and laboratory tests indicate that water will drive oil through sand far more easily than oil will drive water. We must conclude therefore that in any particular sand stratum, (and many pay sand bodies are technically a series of practically disconnected strata) if and when water reaches and surrounds a producing well, additional oil can reach the well from other directions only with great difficulty, if at all. The greater the ratio of longest to shortest paths, then, the greater the chance of trapping oil. From this and other considerations we conclude that the nearer this ratio is to unity, the more efficient the flood is likely to be, other things being equal. This favors the 4-spot or 7-spot flood.

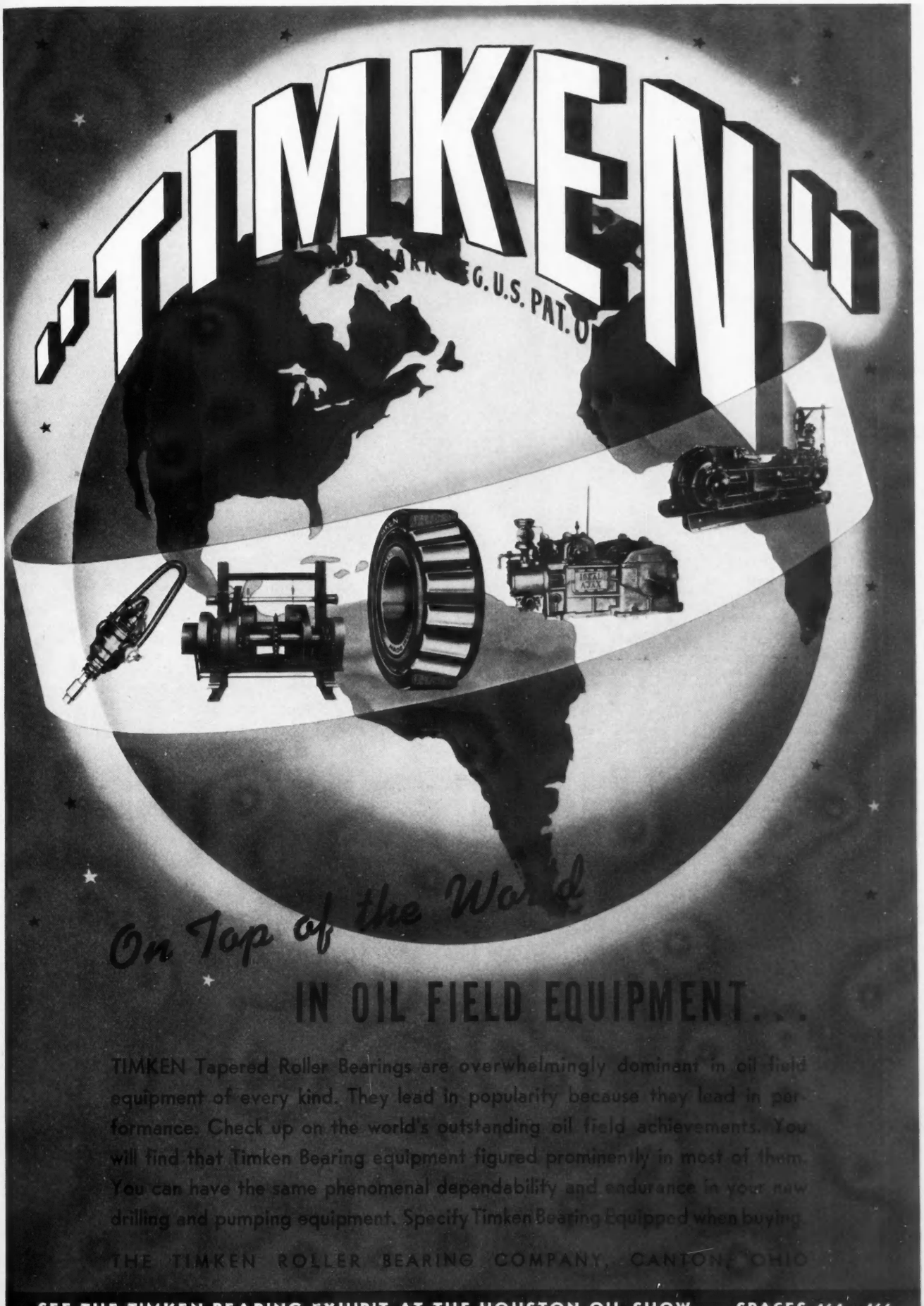
Again, throughout the life of the flood, more liquid enters the intakes than is pumped from the producing wells, the difference finding lodgment in the previously non-liquid-saturated pore space. Theoretically, for this reason, more intake wells should be provided than producers. Actually, in open sands this matter may not be so important. In tight sands it may become essential to good operation.

Shorter Waiting Period

For some months after water is first introduced into a sand body no increase in oil production is accomplished. The shorter this period, the sooner the economic benefit of the flood will begin to accrue, and the shorter the period that interest must be charged on the investment. This waiting period may be shortened in three ways, by heavier shooting, by using higher pressures, and by increasing the number of intake wells in a given acreage. Of shooting and pressures, more later.

The number of intakes may be increased by reducing the well spacing, or by proper selection of pattern. Disregarding boundaries, and assuming one well to the acre, in a 100-acre property, a 4-spot would provide 33 intakes, a 5-spot 50 intakes, and a 7-spot 67 intakes. We can, then, to a considerable extent, control the waiting period and the speed of flooding by our selection of pattern. In a sand body of high permeability, this factor may not be especially prominent. In a tight sand, however, this consideration may make the difference between a desirable and undesirable operating period, or even between a profitable or profitless operation. For territory of the latter type, therefore, the 7-spot pattern is in abstract strongly indicated.

The 9-spot pattern is an irregular arrangement and is undesirable from the viewpoint of the ratio of longest to shortest paths. Its greatest use lies



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in its development from a previously drilled 5-spot where shorter spacing is desired.

The selection of well spacing has a very strong bearing on development cost. In the Bradford area a well may cost $2,500. One acre may be capable of supplying 3,500 barrels of oil. If one well is drilled to each 1¼ acres, the well cost per barrel will be about 57 cents. If, on the other hand, one well is drilled on each ¾ acre, the corresponding cost will be about 95 cents. The difference between these would make a satisfactory net profit on any operation. Yet the closer spacing is sometimes used where the greater spacing would be just as effective.

The most efficient spacing for any property can be determined only in the light of a knowledge of the particular sand properties and of the present and prospective economic conditions, including crude prices, labor and material costs, etc. A sand body of very low permeability will require closer spacing than a high-permeability sand. Also it may be important to space wells closer in a very irregular sand body than would be justified where the sand is uniformly continuous, due to the danger of trapping oil in the blind ends of lenses.

The time required to deplete an area, using any particular pattern, will vary roughly as the square of the spacing, since the number of wells introducing water will decrease in this ratio. By changing to a pattern providing more intake wells in proportion to oil wells, this can be in part compensated for. It can often be compensated for in addition by the adjustment of pressures.

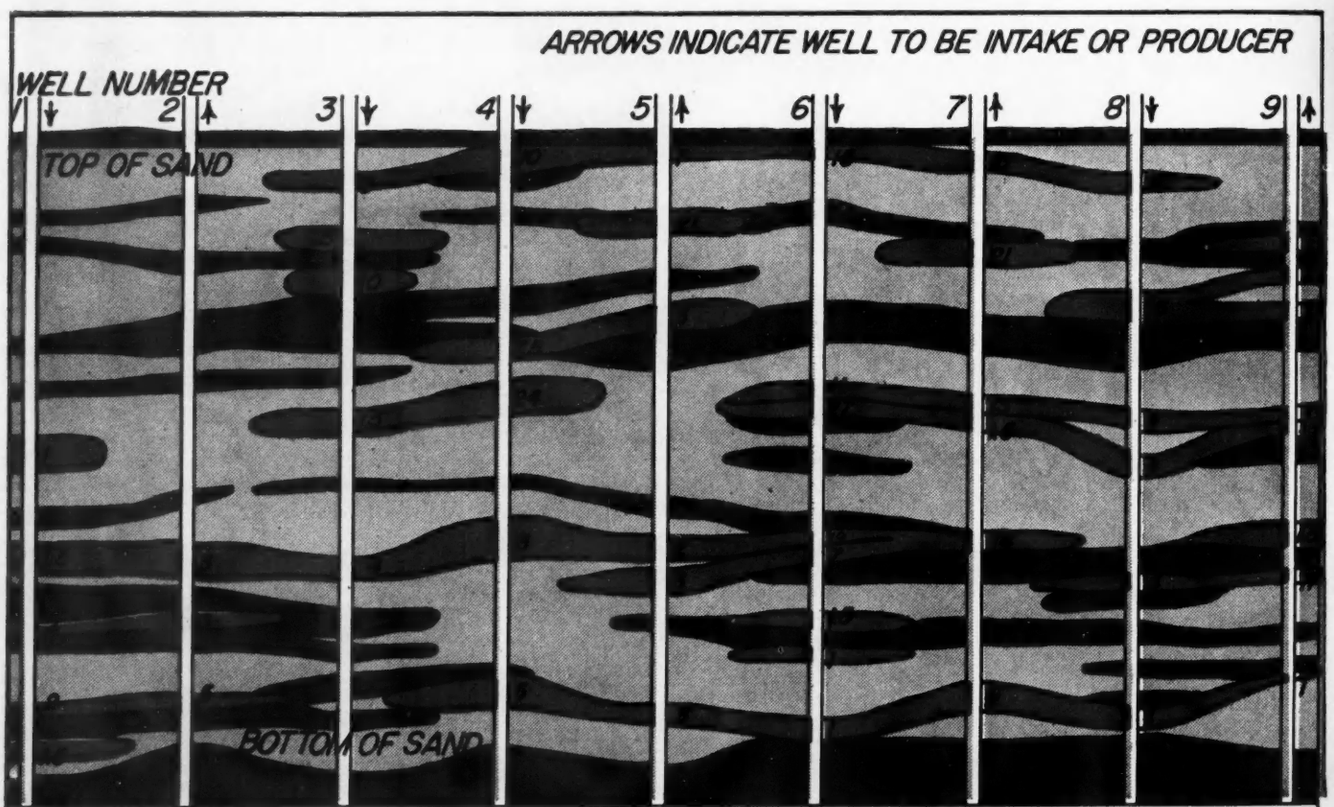
There is, therefore, no best spacing for all properties, as the maximum (and therefore lowest development cost per barrels) spacing may result in too slow a return and too high total interest charges. The amount of money available for development also has its influence.

Higher Pressure Worth Additional Cost

The application of pressure to water costs money, both in capital investment and in operating expense, and the higher the pressure, the greater these costs. On the other hand, the higher the pressure, the fewer wells will need to be provided for the introduction of a given amount of water into a property; or, for a given number of wells, the quicker the oil will be produced and the investment returned. Also, all laboratory work and some field work as well indicate specifically that the higher pressures remove a larger percentage of oil from the sand.

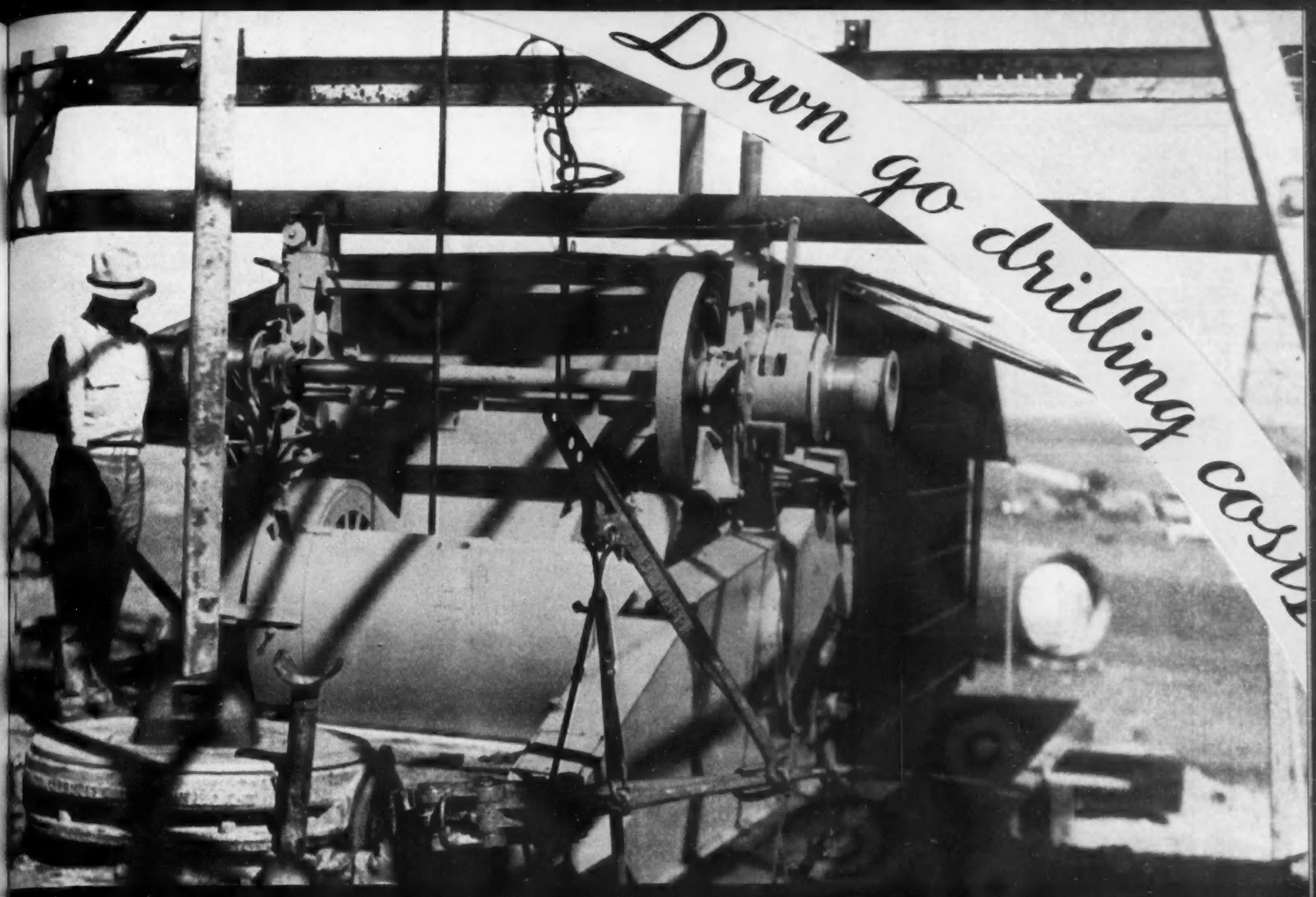
The highest pressure it is possible to use on any sand body is, at the surface, about equal in pounds per square inch to the depth to the top of the sand in feet. Beyond this, the pressure may cause and has caused the overburden to be raised sufficiently to enable water to by-pass the sand itself. Aside from this there is no theoretical reason, nor competent evidence, that water channels the sand in any way. In other words, the weight of the overburden determines the theoretically highest pressures to use.

It is obvious that roughly to introduce a given amount of water into a foot of sand, the pressure required will vary inversely proportional to the permeability, other things being equal, that is, that a high-permeability sand will handle the same amount of water at a relatively low pressure that will require a high pressure should the permeability be low. Since the whole economic as well as technical picture enters, it is not possible to write a simple formula



BLACK - SHALE
LENSES - "OPEN" SAND OF PERMEABILITIES SHOWN
REMAINDER OF SAND - BELOW .5 MILLIDARCY

FIG. 2. ACTUAL SECTION, 1600' LONG, OF A TIGHT AND BROKEN BRADFORD SAND BODY 90' THICK



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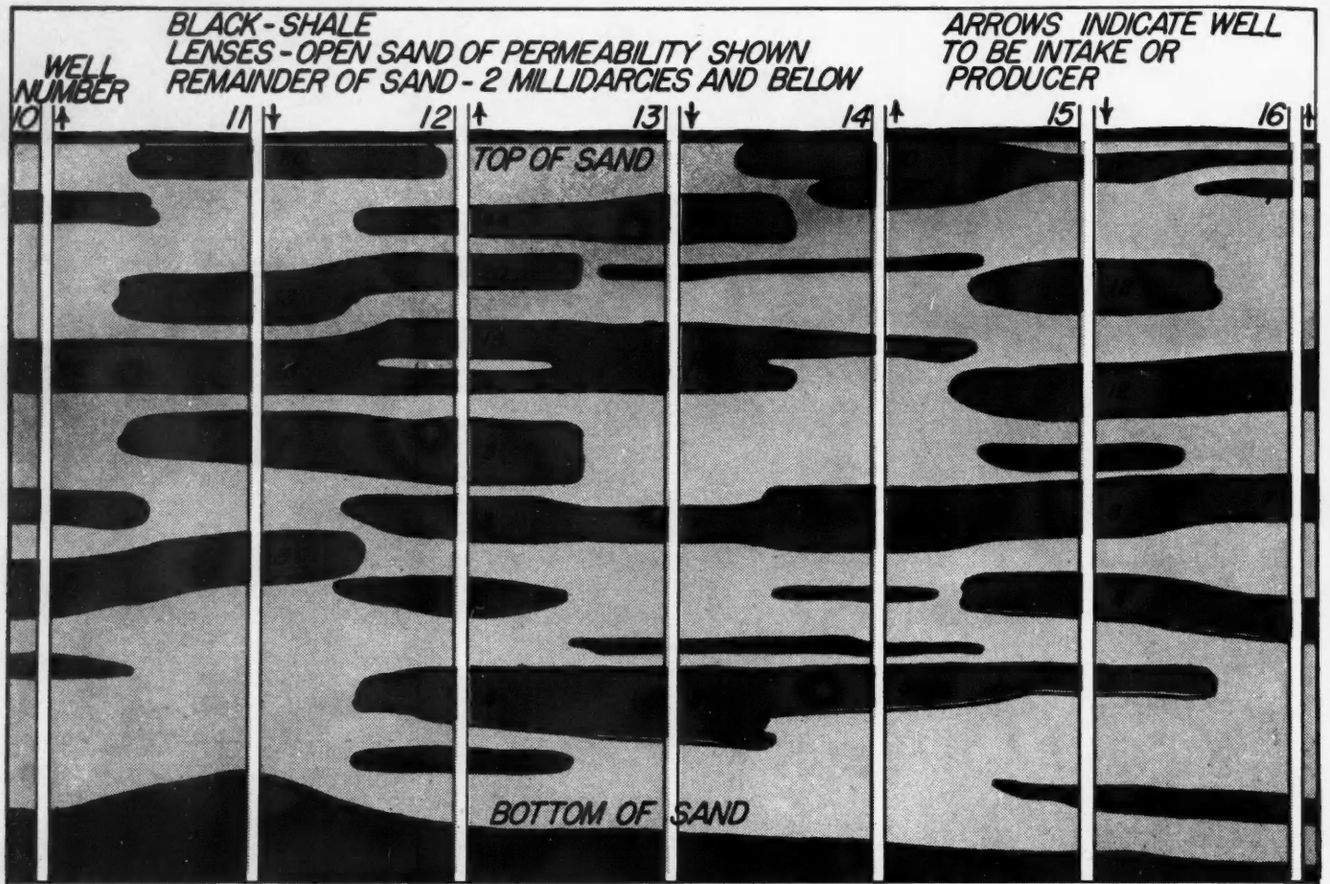


FIG. 3. ACTUAL SECTION, 1400' LONG, OF A "UNIFORM" BRADFORD SAND BODY 26' THICK

for pressure determination. Each property must be worked out on its own merits. This can for all practical purposes be done.

The quality of the water used is as important a factor in efficient operation as is the quantity. Flood water must contain nothing which will tend to plug the very small pores in the sand. Further, its nature must be such that it will not excessively corrode the pipe lines through which it passes[1]. Fortunately a high quality of water is generally so simply and economically attainable as to represent no serious operating problem.

It seems self-evident that to attain efficiency, as much of the water as possible must be made to do useful work, that is, must move oil toward and into the producing well. It is also evident that any water reaching a producing well without moving oil ahead of it, that is, through "watered out strata" is not doing useful work and is therefore lowering the efficiency of the operation.

If one stratum "waters out" ahead of the others, water will henceforth travel through it to no useful purpose. The problem therefore is to maintain the flood "front" as regular and nearly vertical at all times as is possible in the heterogeneous assortment of sand strata that usually go to make up the sand body.

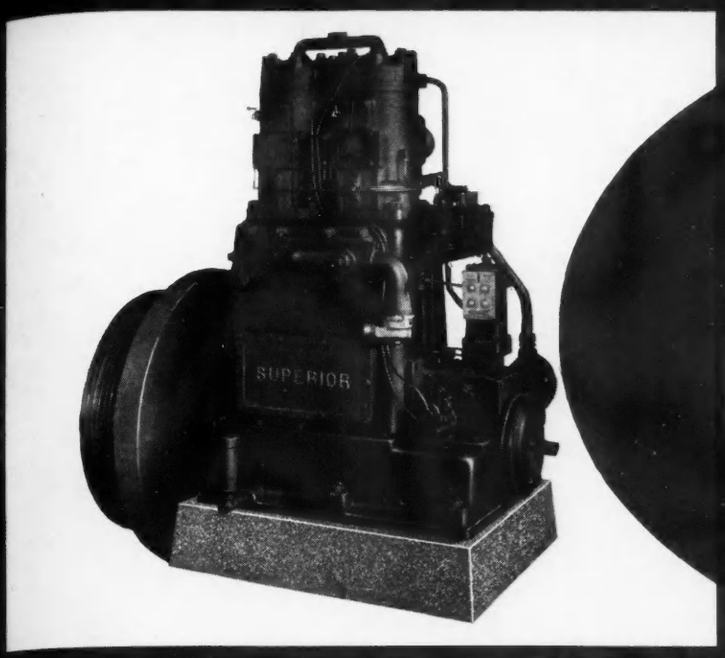
Sand Conditions Illustrated

Figure 2 illustrates a rather bad, but by no means unusual actual case of this heterogeneity in the Bradford field. Most of the sand on this poperty is less than ½ millidarcy, yet can be profitably flooded if properly handled. There will in this case be some inescapable trapping of oil in blind lenses, as for instance in the lower 3 millidarcy lens near the bottom of well No. 2. The 21 millidarcy lens in well No. 5 will not be flooded in the plane of the sketch.

Figure 3 illustrates a similar type of section of what has been considered a much better, and in fact a very uniform sand. The presence of the high permeability lenses, or "open streaks" was not seriously suspected prior to the sand examination. Here only a few small isolated lenses of shale occur. A similar section plotted at right angles to Figure 2 indicates that these open-sand lenses in general are longer in the northeast-southwest direction than in the northwest-southeast direction, although certain ones, the 120 millidarcy lens in well No. 13, for instance, lie almost at right angles to the general trend.

It is obvious that with uniformly shot wells, and with a uniform pressure applied to the entire sand body, the water will not progress simultaneously at a uniform velocity in all strata. The water will move with various greater speeds through the higher permeability lenses than it will through the tighter parts of the sand body. Under these conditions it will of necessity reach the producing wells through the open lenses long before the water moving through the tighter sand. As soon as water reaches the producing well through any particular lens, that lens may be considered to be watered out. Water will henceforth continue to move through this lens throughout the remaining life of the property, and will be doing no useful work. At the same time it

[1] Proper Treatment of Flooding Water, Harry M. Ryder, Producers Monthly, September, 1937, Vol. 1, No. 11. Water for Oil Well Flooding Operations, Harlan W. Nelson, Producers Monthly, February, 1938, Vol. 2, No. 4.



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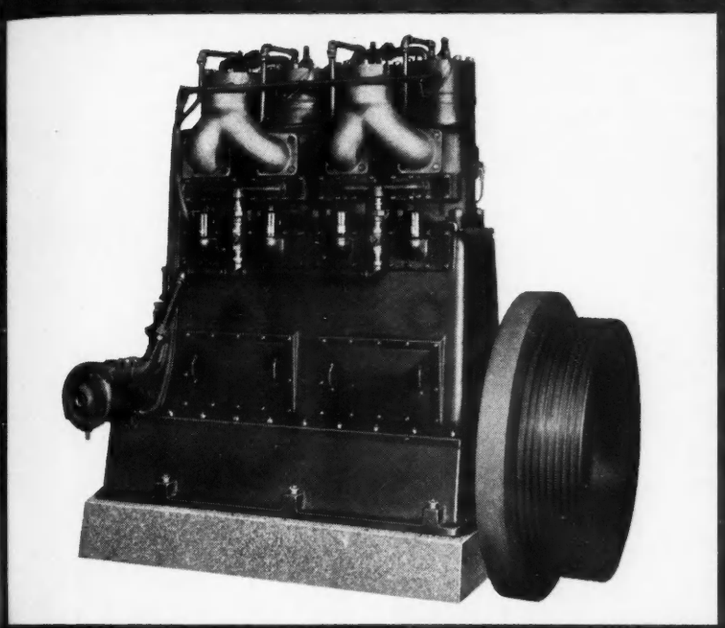

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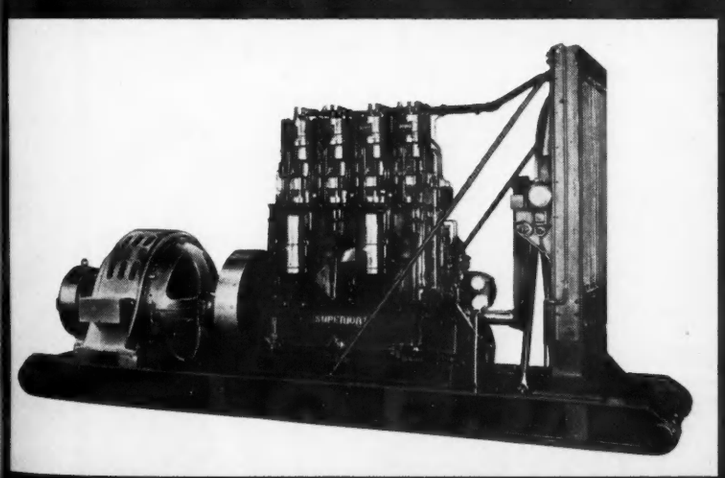

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will cost money to drive this water in and to pump it out again. In certain cases, such as a protracted breakdown of the producing well, it may in addition do serious damage, by causing a reverse flood to be developed in that producing well[2].

As it would be utterly impractical to correct for this sand condition by the placing of multiple packers and multiple strings of tubing to enable varying pressures to be applied, the only recourse left is in the control of the shooting of the well. Only in this manner can the nitroglycerin, an expensive material, be placed where it will do most good, and where, so far as practicable the varying permeabilities found in each well can be compensated for by varying the effective diameters of the well at the positions concerned.

In Figure 4 we have attempted to illustrate the position of the flood front in the sand body disclosed in Figure 3, at a time about 18 months after water has been simultaneously introduced into the three intake wells shown, as if uniformly shot with 3½-inch shells, and at a uniform pressure for all of them, perhaps in this case 650 pounds per square inch at the surface.

Variations In Permeability

It is inevitable, in a computation of this sort, that many approximations must be made. There are many known minor variations in the permeability in each well which, for this purpose, it would be out of the question to consider. And further there are innumerable minor, and perhaps many major unknown variations in permeability between the wells to which no consideration can be given. Again, the variations which undoubtedly occur in the third dimension, at right angles to the sketch, must enter to an unknown degree.

The varying oil saturation of the sand will also enter and can only partially be included in the mathematical development.

To correct for uncertain conditions so far as possible, the relationships between permeability and rate of flow and between shot strength and rate of flow as determined from extended field data and presented by the writer in a previous paper[3] have been used in the present instance. As the flood in this case is being developed on a 5-spot pattern, the pressure gradient computed by Dr. S. T. Yuster[4] has been used.

In spite of the infinitely complex system with which we are working, it would seem that the position and profile of the flood front as shown in Figure 4 will give us an excellent idea of how floods actually do move through a sand body which has been in the past placed under the category of "uniform."

In examining this sketch we notice first of all that far more water has entered well No. 11 than well No. 15. Also that wells Nos. 10 and 12 are producing considerable quantities of water, water which is costing money and is doing no work. Well No. 14 is producing water, but in smaller volume, and well No. 16 is producing no water at all from the intakes shown. Water which these producing wells may be "making" from the intakes placed back of and in front of the row here shown, is of course not included in this examination.

Further, we see where this water comes from and

[2] S. T. Yuster, Producers Monthly, Vol. 2, No. 9, July, 1938.
[3] Petroleum and Natural Gas Conference, Pennsylvania State College, April, 1937.
[4] S. T. Yuster, Producers Monthly, Vol. 2, No. 9, July, 1938.

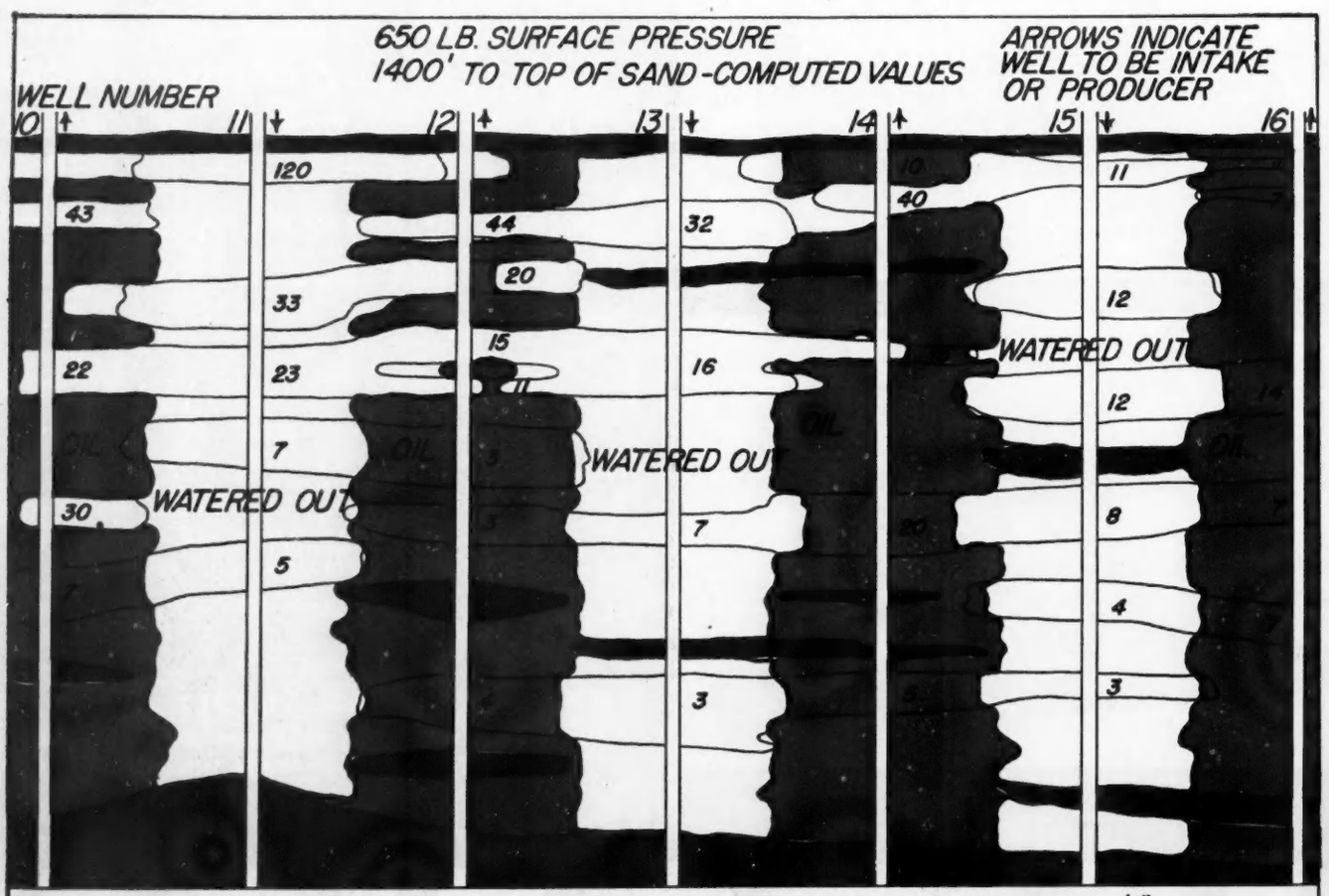

FIG. 4. - SAND OF FIG. 3 SHOWING FLOOD POSITION, 18 MONTHS - UNIFORM SHOT 3½" SHELLS

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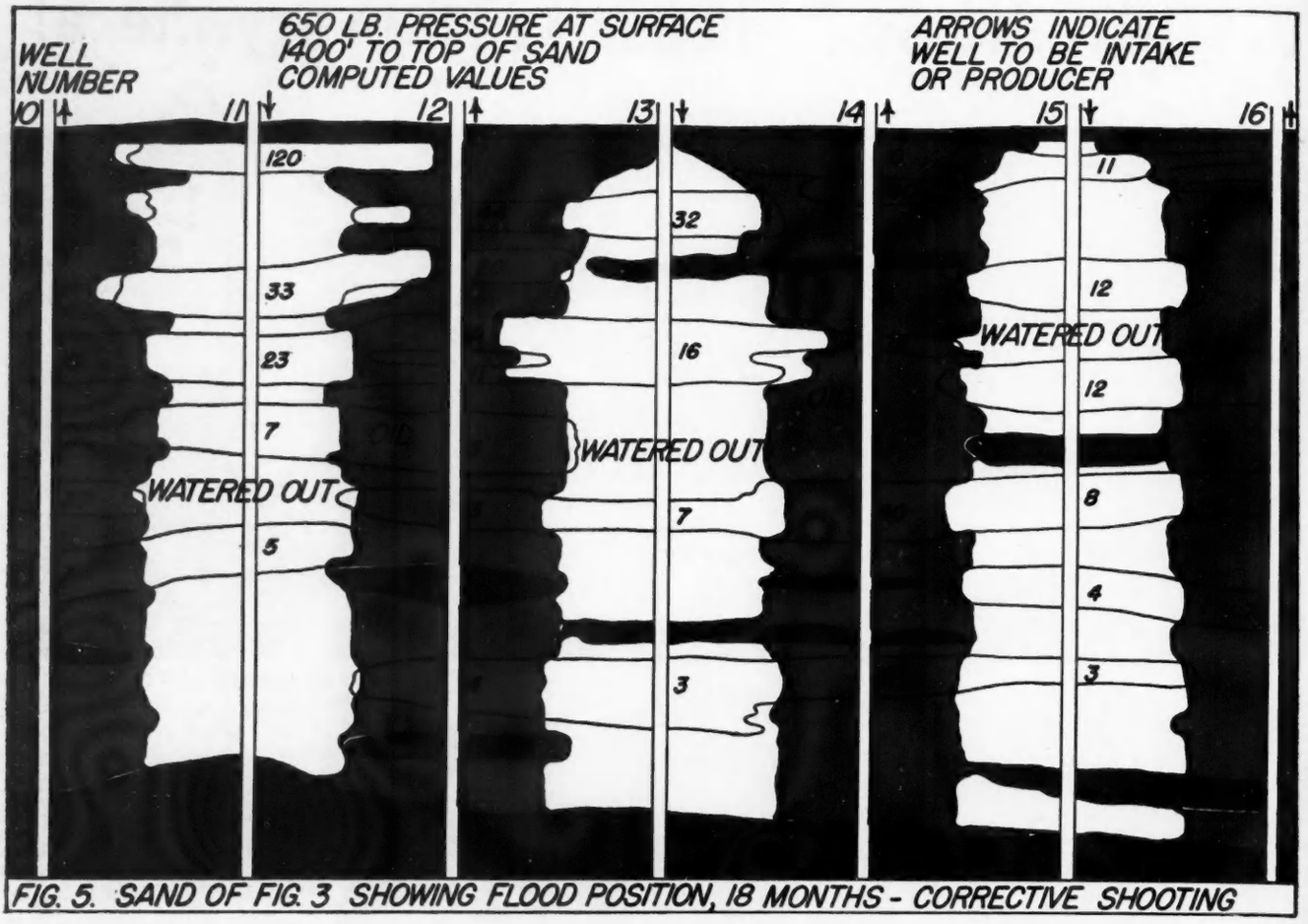

FIG. 5. SAND OF FIG. 3 SHOWING FLOOD POSITION, 18 MONTHS - CORRECTIVE SHOOTING

how it happens to be where it is. Previously unexplained variations from well to well in the behavior of both intakes and producers become understandable.

And what is most important of all, we know what to do about it. Every barrel of water produced means that one or more barrels is entering an intake well and will do no useful work, hence increasing costs and lowering efficiency.

The obvious solution to this problem is to so arrange matters:

1. That so far as possible the same amount of water will enter each vertical foot of sand body at the same rate, irrespective of permeability, and in this way assure a uniform and vertical flood front.
2. As to speed up the naturally slow movement of water through the tighter sand, hence bringing to the surface its recoverable oil at an earlier date.
3. At the same time the movement of water into the higher permeability lenses is retarded slowing up the recovery of oil from these somewhat, but retarding the entrance of large quantities of water which if permitted would pass through the sand without doing useful work.

Shooting

The instrumentality of this control is the nitroglycerin used to shoot the well. A 5½-inch diameter shell (4½ quarts per foot) will fracture (not cave) the sand far deeper than a 3½-inch shell (2 quarts per foot) and hence enable far more water to enter the sand under a given pressure than if the lighter shot were to be used. Please notice that here we make no reference to the total quarts in the shot, nor to the length of the shells. The diameter of the shell, and hence the intensity of the shot determines the extent of useful fracturing.

It is true that the total amount of glycerin in the shot does have some effect on the results to be obtained from any given diameter of shell. This effect is probably minor, and since the size of the total shot must necessarily be the total of the individually determined shells, it can and needs to be considered only in a general qualitative manner.

Each of the wells shown in Figure 4 has in fact, in this manner, been shot using shells of various diameters, and at places using spacers, in accordance with the exact nature of the sand as found by test in each well. The flood front for the same pressure and elapsed time has again been computed in the same manner as before and the results plotted on Figure 5.

A comparison of the two charts shows the striking change which has taken place in the flood-front profile. There are no longer any arms of water reaching out to embrace the producing wells. At the same time the flood front in most of the tight sand has advanced much further than it had in Figure 4. In fact somewhat more than twice as much water has entered most of the tight sand than where the uniform shot was used.

It is true that the flood front is not yet a straight line. We should like to accomplish just this, but the erratic natural placement of the open lenses require that a compromise be reached from practical considerations. For this reason, where a narrow band of tight sand is found between two open lenses, it is not always convenient to place a foot or so of a 5½-inch shell, for instance. Also, there are minor permeability variations in the sand at the wells which have been omitted from this presentation for pur-

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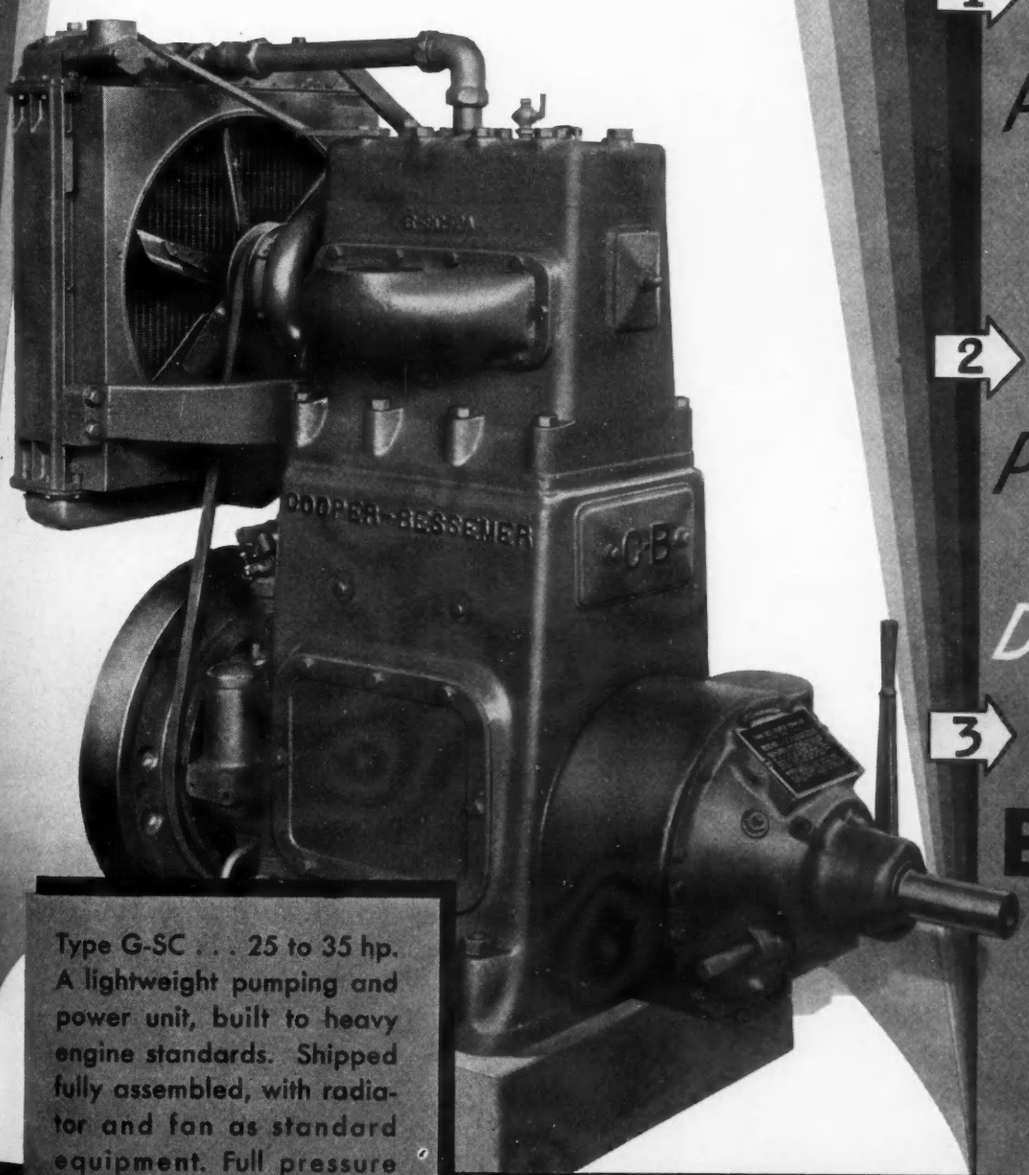

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poses of simplicity. But a practical correction has been accomplished, which has been handled in the field in a practical manner. Of course, in time water will reach the producing wells through some of the strata ahead of others. Just the unknown variations in the sand between wells would accomplish this. All we can do, and this we have done, is to make the major correction.

Operating Advantages

This gives us very valuable operating advantages:

1. The distribution of water throughout the sand body is rendered far more uniform because of the corrective shooting.
2. The flood front in the tightest sand is advancing roughly twice as fast as it otherwise would, bringing in oil from this very considerable portion of the sand body in a much shorter time.
3. The advent of any large quantity of water to the producing wells is greatly delayed.
4. The total final introduction and production of water is enormously reduced.

To reduce these considerations to numerical values on a theoretical basis is exceedingly difficult, and in most cases would require so many unsupported assumptions as to be of doubtful value. An approach to this end has been made, however, in the case of the water handled, and is summarized in the following table:

INTAKE WELLS

Computed First 18 Months			
Amount of water input.....	No. 11	No. 13	No. 15
Total barrels uniform shot....	34,200	26,200	22,800
Total barrels corrected shot..	21,500	21,200	22,200
Average barrels/day uniform shot	62.5	47.9	41.8
Average barrels/day corrected shot	39.4	38.7	40.4
Estimated 6½ Years			
Total barrels uniform shot....	110,900	84,700	75,700
Total barrels corrected shot..	70,800	66,900	72,400
Saving in water, barrels.....	40,100	17,800	3,300

PRODUCING WELLS

Computed First 18 Months				
Amount of water produced coming from above wells only.	No. 10	No. 12	No. 14	No. 16
Total barrels uniform shot....370		896	37	0
Total barrels corrected shot...	0	0	0	0
Average barrels/day from beginning, uncorrected shot..	1.8	2.3	.32	0
Approximate time first appearance, uncorrected shot.....	1 yr.	6 mos.	15 mos.	2 yrs.

Corrective Shot Saves Water

It will be noted that in the case of intake wells Nos. 11 and 13 a very large saving of water is effected by the corrective shot, in addition to the speeding up of the flood movement in the tight sand. As all of the excess water would be uselessly supplied, and a considerable portion of it would be pumped again from the producing wells, the saving in water handling costs will run into the thousands of dollars. The dollar advantage in the speeding up of the flood movement in the tight sand and in the tighter of the charted lenses is far more difficult to compute but will greatly exceed the saving in water handling.

Another saving will arise from the lighter duty (water) requirements of the well pumps. Since these will not be required to handle so much fluid, there will be less pulling and other maintenance costs.

The particular operation discussed here is still in the development stage (all wells here considered have of course been completed) so that it is not possible as yet to verify the figures here given from actual operation. Well No. 17, shown in Figure 6 in technical profile was drilled into an old subsurface flood on this same property. The effect of selective watering out of the more permeable strata, due to uniform shooting and low pressure, is excellently exhibited here. All "open streaks" are watered out. Oil concentration, due to approaching pressure water, is found

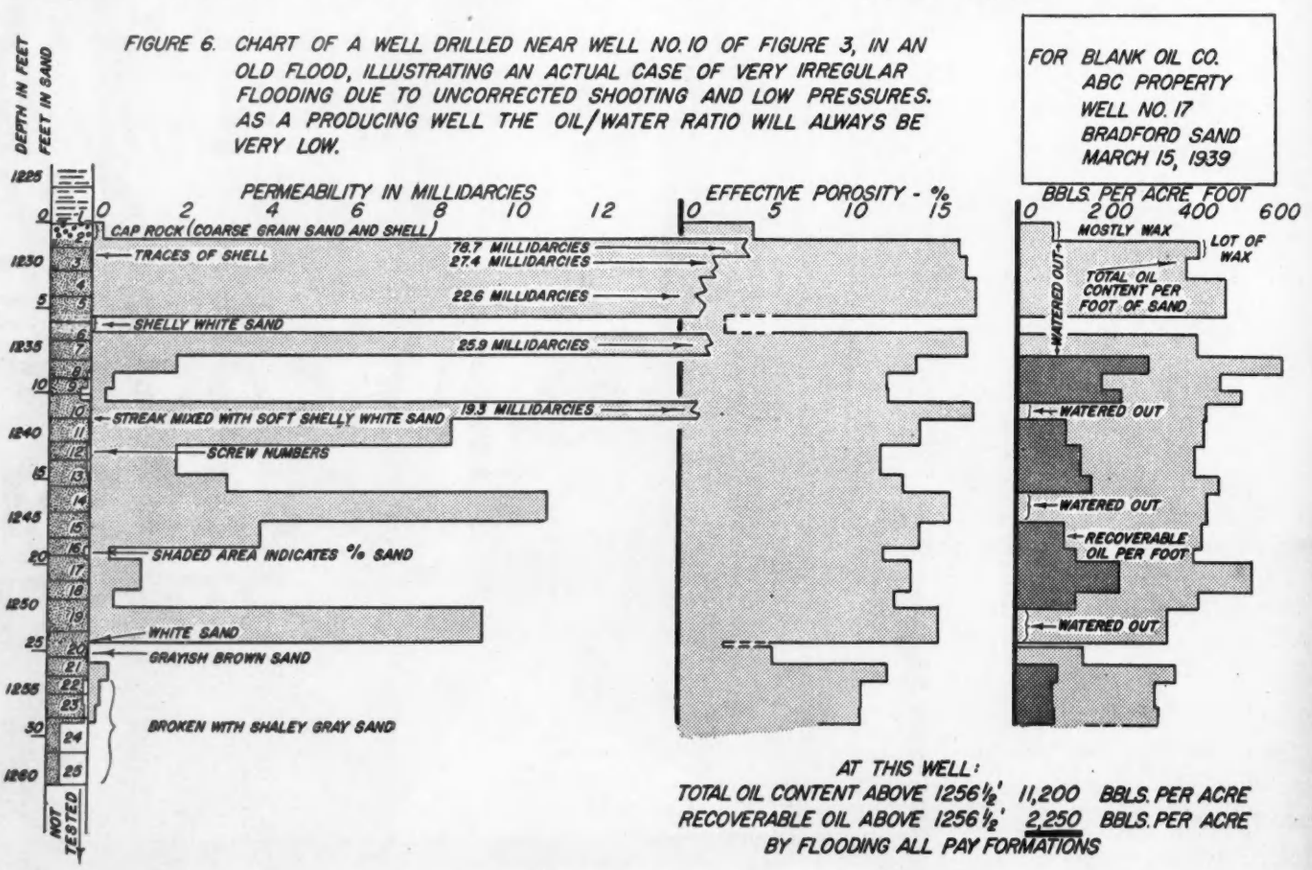

FIGURE 6. CHART OF A WELL DRILLED NEAR WELL NO. 10 OF FIGURE 3, IN AN OLD FLOOD, ILLUSTRATING AN ACTUAL CASE OF VERY IRREGULAR FLOODING DUE TO UNCORRECTED SHOOTING AND LOW PRESSURES. AS A PRODUCING WELL THE OIL/WATER RATIO WILL ALWAYS BE VERY LOW.

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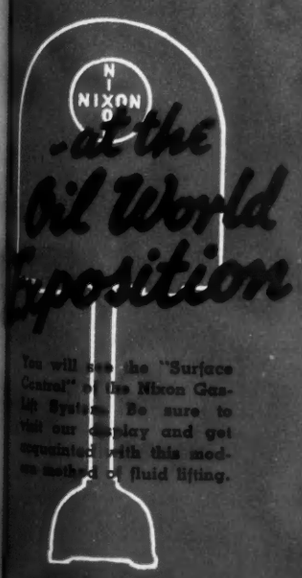

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at 1236 and 1248 feet. The remainder of the sand has been unaffected by the flood. Approximately 4000 barrels of oil per acre are normally recoverable from this area.

In the case of the property which includes the wells shown in Figure 2, early developments have been producing for 10 years beside developments of recent years involving corrective shooting.

In this case the contrast in the two modes of operation is very great. The early operation (uniform shooting) from a very early date involved 24-hour pumping in order to handle the water, and now after 10 years it is necessary to produce 20 barrels of water to get in some cases less than half a barrel of oil. Also the amount of water entering the producing well is so great that an extended suspension of pumping would seriously endanger the remaining producible oil by heading up and forming a back pressure of water on the present pay sand.

Corrective Shooting

In contrast with this, the wells completed by corrective shooting show a very small water production, and far more oil. The pumping time on these wells, varying with the individual well is from two to five hours a day, and the indicated total recovery will be greater by one or more thousand barrels for each well.

A shot simply cannot be competently selected when the individual sand characteristics are unknown. Any reasonable shot will of course greatly improve the performance of the well, but only one shot, selected and tailored for the well in question will do the job efficiently, will enable the operator to get the most for his money and effort.

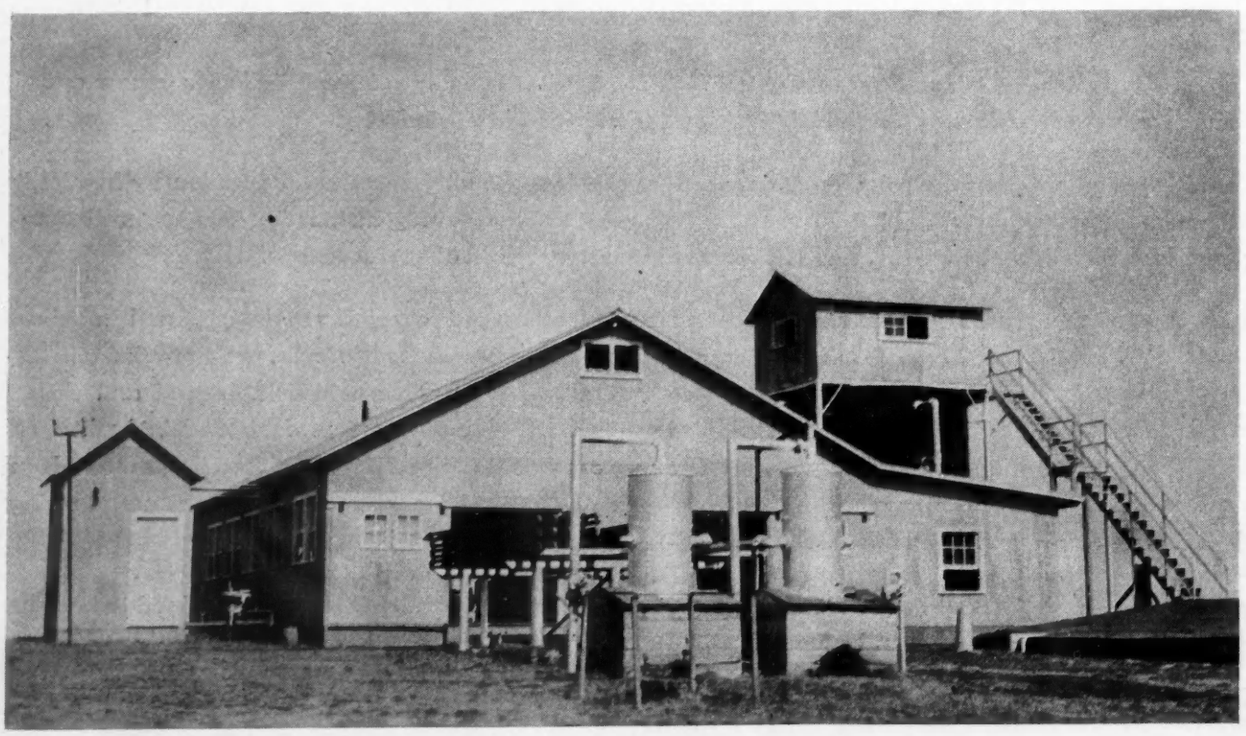
Investigation Cost Small

The cost of gaining the necessary knowledge of the sand in order to properly choose pattern, spacing, pressure and shot for an efficient operation is moderate, and very small in proportion to the advantage to be gained by its use.

Chip sampling of the sand[5], as introduced by D. T. Andrus of Bradford has become a very practical everyday procedure from which all necessary exceedingly accurate information of sand conditions can be quickly and economically obtained. Within several days of the drilling of the sand, information can usually be available for specifying a proper shot for the sand as it is actually found.

Today, therefore, the most efficient drilling patterns, well spacing and pressures cannot be determined without an exact knowledge of the character of the particular sand body involved, nor can efficient control of the flood be obtained without an accurate knowledge of the particular sand conditions existing in each well. With this information, now available as a routine procedure, efficient flooding is at last a practical reality. Guesswork as to what goes on in the sand can be a thing of the past.

[5] Harry M. Ryder and Donald T. May, Oil and Gas Journal, April 21, 1938.



Water flooding, which received its start in the fields of Pennsylvania, now is becoming of importance in the Mid-Continent. A number of projects are under way in northeast Oklahoma and adjoining southeast Kansas. Pictured here is a water flooding plant constructed near Delaware, Nowata County, Oklahoma.

OIL WORLD EXPOSITIO
Number
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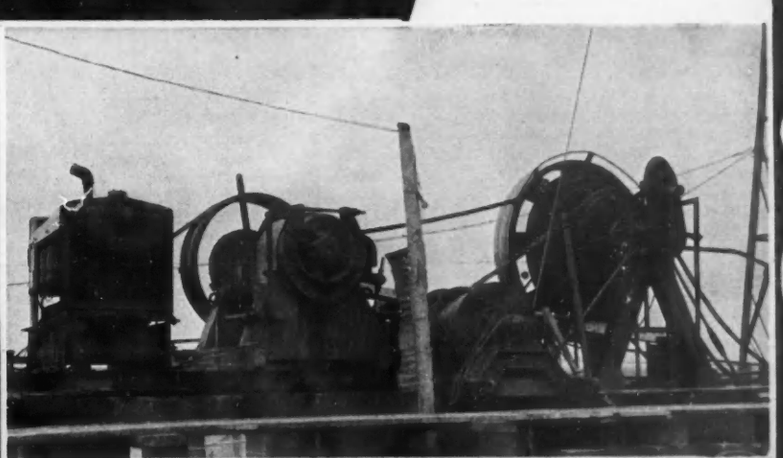

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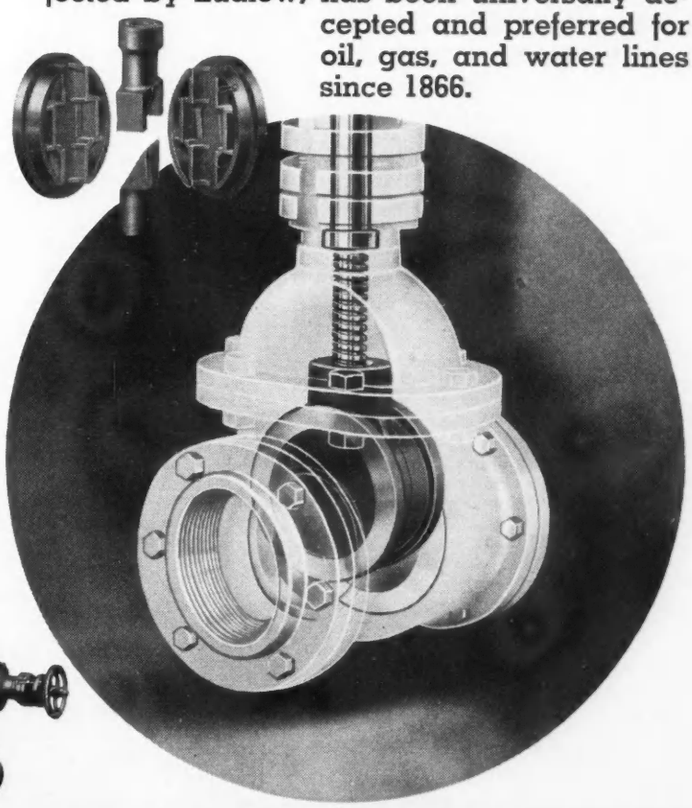

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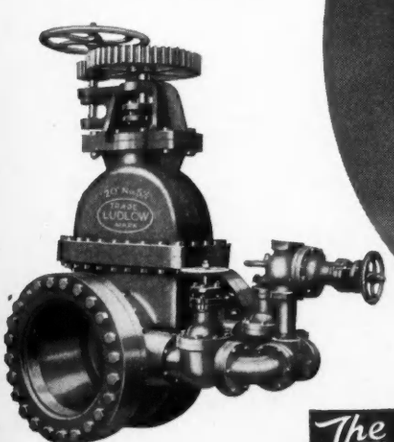

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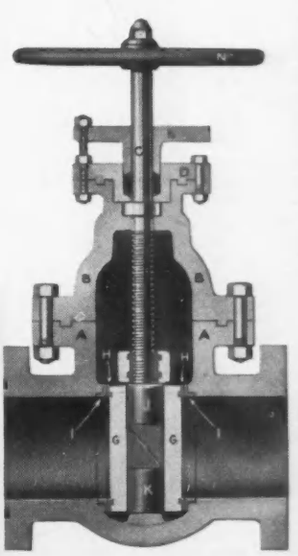

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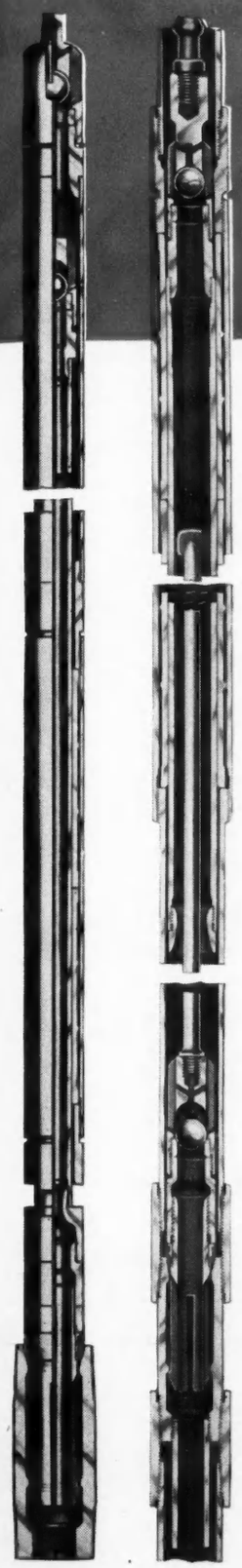
Don't Be Penny-wise ...and Pump foolish!

Be Specific—Buy PACIFIC



Pacific "Oil States" Insert Liner Pump

Pacific "Oil States" Tubing Type Liner Pump

PERTINENT PUMP PHILOSOPHY

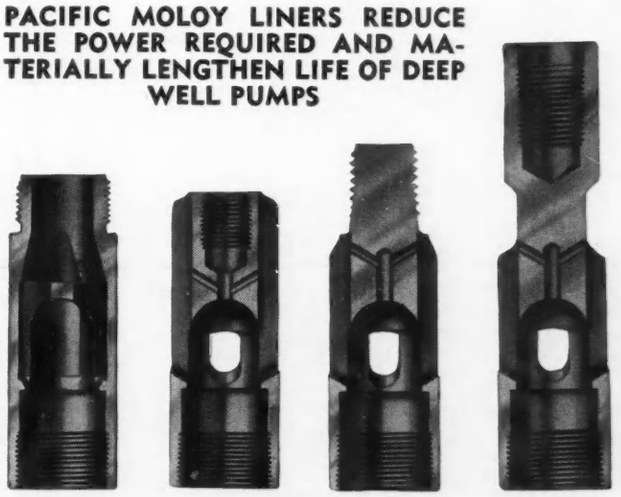
These are times when one may be tempted to sacrifice a permanent value for an elusive temporary saving. Cheap pumping costs is the objective, but the goal does not lay in cheap pumps.

Present economic conditions won't last forever; neither will cheap pumps. Real economy is found in constant, uninterrupted, profitable operation—not in cheap equipment, constant interruptions, and continuous repairs. The cost of a good Pacific Pump occurs only once, but the "cost per barrel" goes on indefinitely.

Like other quality products, GOOD pumps cost just so much to make; they can't be "just as good" and sell for less, unless either buyer or seller makes a sacrifice. There's little or no salvage in cheap pumps; they're short lived, "and full of troubles."

While only six years old, Pacific Pump Works has made unprecedented headway in the manufacture and sale of pumps. The reason: CHROME and MOLOY METAL, plus Engineering Design, Modern Plant Facilities, and Skilled Workmanship. Stated another way the reason is, QUALITY PRODUCTS.

PACIFIC MOLOY LINERS REDUCE THE POWER REQUIRED AND MATERIALLY LENGTHEN LIFE OF DEEP WELL PUMPS



Streamlined Cages and Fittings Produce More Fluid with Less H.P.—Less Emulsion—Prevent Ball Spin

WE MAKE ANY TYPE OR STYLE OF PUMP

and in Pacific, you get MOLOY METAL LINERS and PACIFIC CHROME PLUNGERS

CLOSER TOLERANCE WITH LESS FRICTION

Manufactured By **PACIFIC PUMP WORKS** Huntington Park, California

MID-CONTINENT DISTRIBUTOR

MID-CONTINENT PUMP SUPPLY COMPANY

Tulsa, Oklahoma

SEE MID-CONTINENT SUPPLY CO

LOOK FOR THE BLUE NEON DERRICK

The Lunkenheimer Company

CINCINNATI, OHIO
Booths 214, 216

EXHIBIT: Bronze, iron, steel and corrosion resistant alloy valves, lubricating devices, cocks, etc.

REPRESENTATIVES: Harry A. Burdorf, sales manager; Marshall N. Stickel, sales representative; Joseph A. Birkhead, sales representative; Joseph Waldeck, sales representative; Elmer R. Tieberman, sales representative; D. R. Davis, sales representative; and E. P. Lunken, sales representative.

Dresser Manufacturing Company

BRADFORD, PENNSYLVANIA
Booths 1128, 1130

EXHIBIT: Pipe couplings, repair devices for pipe lines, clamps, sleeves. An interesting feature will be an actual demonstration of a flexible pipe joint.

REPRESENTATIVES: H. P. Boncher, sales manager; C. T. Davis, district manager; and H. R. Shidel, district manager, oil field division.

Texas Electric Steel Casting Company

HOUSTON, TEXAS
Booths 533, 535, 537, 1131

EXHIBIT: Small steel specimens and complete metallurgical data on Tesco steels in Booth 1131. A service booth for handling incoming and outgoing telephone calls, Western Union and Postal service, and free page service in Booths 533, 535, 537.

REPRESENTATIVES: F. M. Wittlinger, secretary; and C. K. Tharp, metallurgist.

Texas Pipe Bending Company

HOUSTON, TEXAS
Booth 148

EXHIBIT: Pipe bends, pipe coils, welded headers and manifolds (fabricated from copper, brass, aluminum, stainless steel, carbon steel, alloy steel and alloy pipe).

REPRESENTATIVES: A. S. Beeley, owner; G. E. Duckworth, sales engineer; J. A. Beeley, sales engineer; and R. Beeley, plant superintendent.

American Sand-Banum Company

NEW YORK, NEW YORK
Booth 232

EXHIBIT: Sand-Banum Standard, Sand-Banum Blue Seal Emulsion, Sand-Banum Special.

NEW PRODUCTS:

Sand-Banum Standard is a concentrated colloidal preparation for removal of scale and corrosion from boilers.

Sand-Banum Blue Seal Emulsion removes scale and corrosion from cooling systems of internal combustion engines.

San-Banum Special, in tablet form, is used for the elimination of scale and corrosion formation in radiator circulating systems of Diesel engines, autos, trucks, etc.

REPRESENTATIVES: L. Bradie, secretary and treasurer, New York; Frank J. Welu, Houston division manager; and Paul P. Elliott.

Hughes Tool Company

HOUSTON, TEXAS
Booths 524, 526, 528, 530, 627, 629, 631

EXHIBIT: Rock bits, core bits, tool joints, reamers, drill collars, valves and fittings, chokes, tubing and flow heads, complete assembled Christmas trees and other specialized oil industry tools.

REPRESENTATIVES: Representatives from both the Sales and Engineering Departments.

National Tank Company

TULSA, OKLAHOMA
Booths 252, 254, 256

EXHIBIT: Full size and miniature separators, miniature treater, miniature bolted tank battery, Armco surface casing, Titeline couplings, automatic pipe line shut-off valve, and tank, treater and separator accessories.

REPRESENTATIVES: F. L. Senter, branch manager; S. S. Parker, branch manager; C. O. Relephord, salesman; and James Ward, salesman.

Lone Star Cement Corporation

DALLAS and HOUSTON, TEXAS
Booths 1563, 1565

EXHIBIT: Lone Star "Incor" and "Starcor" cements.

REPRESENTATIVES: J. B. Roberts, research engineer; J. E. Mifflin, sales engineer; and W. W. (Dick) Simpson, sales engineer.

Garlock Packing Company

PALMYRA, NEW YORK
Booths 519, 521

EXHIBIT: A complete general line of mechanical packing.

REPRESENTATIVES: R. M. Waples, secretary; W. A. Redd, Jr., Birmingham district manager; Ford Wilders; A. C. Gustafson, sales representative; C. T. Crump, sales representative; and W. L. Mikell, sales representative.

Reda Pump Company

BARTLESVILLE, OKLAHOMA
Booths 1528, 1530

EXHIBIT: Reda electrical, centrifugal, submergible oil well pump and operating equipment.

REPRESENTATIVES: A. Arutunoff, president; P. E. Loye, vice president and sales manager; F. Rees Flint, sales representative; J. O. Wise, sales representative; J. L. Hilliard, sales representative; Bert Sutton, Jr., assistant to president; and Dalton W. Lain, advertising manager.

Timken Roller Bearing Company

CANTON, OHIO
Booths 464, 466

EXHIBIT: Timken bearings as used in oil pumping engines, steam drilling engines, geared rotaries, swivels, slush pumps, geared pumps, crown blocks, pumping units, double reduction pumping units, and pumping powers.

REPRESENTATIVES: W. B. Moore, general manager; S. M. Weckstein, chief engineer, industrial division; H. W. Trump, Dallas district manager; S. T. Salvage, Houston; John Borland, assistant chief engineer, industrial division; W. F. Anderson, St. Louis district manager; and Fred Reiser, sales engineer, Pittsburgh.

Everlasting Valve Company

JERSEY CITY, NEW JERSEY
Booth 1048

EXHIBIT: Emergency throttle shut-off valves for drilling rigs; and valves for 250, 300, 350, and 600-pound pressure.

REPRESENTATIVES: E. N. Corning, sales engineer, and J. F. String, salesman.

Texas Foundries, Inc.

LUFKIN, TEXAS
Booth 1325 (Annex)

EXHIBIT: Malleable castings used in the manufacture of oil field equipment.

REPRESENTATIVES: Col. C. C. Chambers, president; R. S. Bradshaw, Jr., secretary and treasurer; Herman H. Brien, sales manager; and Martin E. Gorman, assistant sales manager.

Axelson Manufacturing Company

LOS ANGELES, CALIFORNIA
Booths 350, 457
Booths 1630, 1632, 1634 (Annex)

EXHIBIT: Complete line of Axelson pumps, "on-or-off" attachment, standing valve puller, standing valve with tubing bleeder, stuffing box, sucker rods, couplings, sucker rod guides, pull rods and single joint pull rod couplings in Frick-Reid Booths 350, 457. Heavy-duty lathes in Booths 1630, 1632, 1634.

NEW PRODUCTS:

Pumps—The company exhibit will include a complete line of improved deep well plunger pumps, including the new "Sure-Seal" and "Kup-Pak" pumps.

Sucker Rod Attachment—The improved "on-or-off" attachment provides a means of connecting or disconnecting the sucker rods as desired.

Standing Valve Puller—A new standing valve puller, incorporating many new, desirable features.

Standing Valve—This valve with tubing bleeder incorporates an arrange-

EMSCO

Serves the Oil Industry

★

EMSCO
COMPLETE LINE
PUMPING UNITS

Sturdily constructed on a simple, proven, efficient, safe design. Made in both single and twin crank types, parts interchangeable, for all are made with jigs and fixtures. Emsco Units are safe and easy to work on, and are available in a complete range of eleven sizes to meet all jobs.

★

EMSCO
POWER
SLUSH PUMPS
7¼x12 and 7¾x16

Less weight. More horsepower capacity. All steel fluid ends and fabricated steel power ends, complete circulating oil bath and many other features.

★

EMSCO
STEAM
SLUSH PUMP

Improved steam valve operation gives marked steam economy, smoother operation with the advantage of 30% less weight. Revolutionary "safety" all steel fluid end design.

FOR over fifteen years Emsco oil field equipment has been a standard by which others have been judged, because Emsco has always endeavored to gear their business with the rapid strides taken by the great industry they serve. Ever improving equipment to make it more efficient, more economical, safer and more dependable. Stay a step ahead with Emsco oil field equipment.

EMSCO

DERRICK & EQUIPMENT COMPANY

Dallas · Los Angeles · Houston

EXPORT DISTRIBUTOR

CONTINENTAL EMSCO CO. INC. 20 Rockefeller Plaza New York City

Exclusive Distributor in

TEXAS · LOUISIANA · ARKANSAS · NEW MEXICO

MID-CONTINENT SUPPLY CO., FORT WORTH

SEE MID-CONTINENT SUPPLY CO.

LOOK FOR THE BLUE NEON DERRICK

ment of several relatively small API valves. The valves work in parallel to provide larger fluid capacity, less ball lift, faster valve action, and impose a lighter load on each valve than is possible with the single large valve generally used, the manufacturer claims. The unit also provides a convenient means of bleeding the tubing without pulling the rods or tubing.

Stuffing Box—A new full-floating stuffing box.

Sucker Rods—Sucker rods, couplings, the improved sucker rod guides, and the new Axelson No. 70 single joint pull rods.

Heavy-Duty Lathes—The improved 14- and 24-inch heavy duty lathes will be displayed in Booths 1630, 1632, 1634 on the ground floor annex.

REPRESENTATIVES: J. C. Axelson, president; D. F. Axelson, vice president; D. M. Hammett, vice president; A. G. Haglund, vice president; M. F. Smith, sales engineer; E. W. Brant and P. I. Layman, factory representatives.

Baash-Ross Tool Company

LOS ANGELES, CALIFORNIA
Booths 512, 514

EXHIBIT: Casing head, self-aligning rotary slips, special replacement cylinder for gas engines, tubing block, tubing spider, wire line wiper.

NEW PRODUCTS:

Casing Head—The Type "W" casing head uses a welding ring instead of slips as a means of suspending the casing.

Replacement Cylinder—The Baash-Ross Spelts cylinder for 2-stroke cycle gas engines is a replacement cylinder, new in principle, designed to be attached to engines without need of special parts, and to give higher operating efficiency.

Rotary Slips—These self-aligning rotary slips employ a new principle whereby the liners are automatically adjusted to take and maintain a full length positive grip with the weight of the drill pipe uniformly distributed over the entire gripping area.

REPRESENTATIVES: L. F. Baash, president; H. C. Ross, vice president; A. F. Brown, vice president; H. J. Craig, Mid-Continent manager; O. E. DeLange, Henry Slayback, Gene Buckner, Noel Dalton and Charles Carothers.

Henry Vogt Machine Company

LOUISVILLE, KENTUCKY
Booths 715, 717

EXHIBIT: Drop forged steel globe, angle, and gate valves with screwed and flanged ends; drop forged steel ells, tees, crosses, companion flanges, socket weld fittings; drop forged steel 150 and 300-pound American standard gate valves, flanged; and drop forged union bonnet type gate meter valves.

REPRESENTATIVES: G. A. Daeuble, Jr., sales manager of valves and fittings; W. S. Cannon, Jr., assistant manager of valves and fittings; Henry Vogt Heuser, engineer; and J. L. Massie, manager, Dallas.

The International Nickel Company, Inc.

NEW YORK, NEW YORK
Booths 602, 700, 701

EXHIBIT: Nickel alloy steels, nickel cast irons, nickel bronzes, "Ni-Resist" and "Ni-Hard."

REPRESENTATIVES: A. G. Zima, development and research division; B. B. Morton, development and research division; F. R. Bailey, monel and rolled nickel department; and G. W. Strahan, nickel sales department.

Ensign Carburetor Company, Ltd.

LOS ANGELES, CALIFORNIA
Booth 6

EXHIBIT: Natural gas and butane carburetion equipment, combination natural gas and gasoline carburetion equipment, combination butane and gasoline carburetion equipment, and Forster torches and burners (made by Ransome Company, Emeryville, California) for use with artificial gas, natural gas, and butane-propane mixtures.

REPRESENTATIVES: P. W. Ensign, R. R. Wyker, L. C. Arter and L. G. Smith.

A. Leschen and Sons Rope Company

ST. LOUIS, MISSOURI
Booths 1231, 1233-A

EXHIBIT: Wire rope for all purposes, including "Hercules" (Red-Strand) in both round and flattened strand construction and in both standard and preformed types.

REPRESENTATIVES: L. E. Dressler, sales department, St. Louis; L. E. Weyler, salesman, Louisiana and Texas; and E. E. Lambert, salesman, Western Texas and New Mexico.

Keasbey and Mattison Company

AMBLER, PENNSYLVANIA
Booths 1235, 1237

EXHIBIT: Packings, pipe and block insulations, insulating cements, asbestos-cement pipe, asbestos corrugated siding, asbestos textiles, asbestos millboard, and asbestos paper and rollboard.

REPRESENTATIVES: W. S. Acuff, Jr., sales manager, and H. W. Davis, Houston district manager.

National Supply Company

TOLEDO, OHIO
Booths 237, 241, 136, 140

EXHIBIT: Reception booth.

REPRESENTATIVES: J. A. Geismar, president; D. S. Faulkner, vice president; L. V. Boggs, vice president; C. C. Cartwright, vice president; H. O. Powell, assistant to vice president; A. W. McKinney, sales manager; H. L. Putnam, division sales manager; C. A. McCollum, division manager; M. F. Cribbs, division manager; W. F. Smith, division manager; and J. R. Mahan, chief engineer.

J. P. Ratigan

LOS ANGELES, CALIFORNIA
Booth 1312

EXHIBIT: Polish rod grips, Oil-less beam hangers, rod line weight, shock absorber, tubing block clamp, stuffing box clamp, stringing-up link, walking beam rockers, pitman stirrup rockers, tubing tongs, sucker rod wrenches, sucker rod elevators, sucker rod hangers, "C" and swivel links, bell nipples, and sucker rod hooks.

NEW PRODUCTS:

Equalizing Tubing Tong (No. 152)—This tubing tong is designed to wrap around tubing with great efficiency, the dies being mounted on equalizing pads, using two dies to a pad. One equalizing pad is placed in a housing provided in the jaw and another pad in a housing provided in the handle. An automatic safety locking pin retains the steel pad in the housing of the handle. The equalizing means in the steel pads make the tong practical with four dies. The tong has five points of contact on the tubing.

Combination Bell Nipple (No. 144)—This device is shock absorbing, the rubber providing this feature being 2 inches thick and 5 inches in diameter. The hole in the center of this rubber, where the rods come through, is ½ inch, and the largest size rod coupling will come through easily. This bell nipple is a rod wiper, or rod stripper, is 100 percent non-spark, and is the hinged type. It has a packing-off feature, which, when pulling rods, will prevent oil from flowing over the floor and will force oil to go out the lead line.

Stringing-Up Link (No. 142)—This product is composed of two parts, the body and the babbitt socket. The socket is babbitted onto the end of the pulling line. The socket will accommodate any size of cable up to and including 1⅛-inch. The pivotal bail on this body can be connected to a dead man, or the becket of the block, and can be closed with a quick-acting safety pin which prevents the socket and cable from escaping from the body until the safety pin is removed.

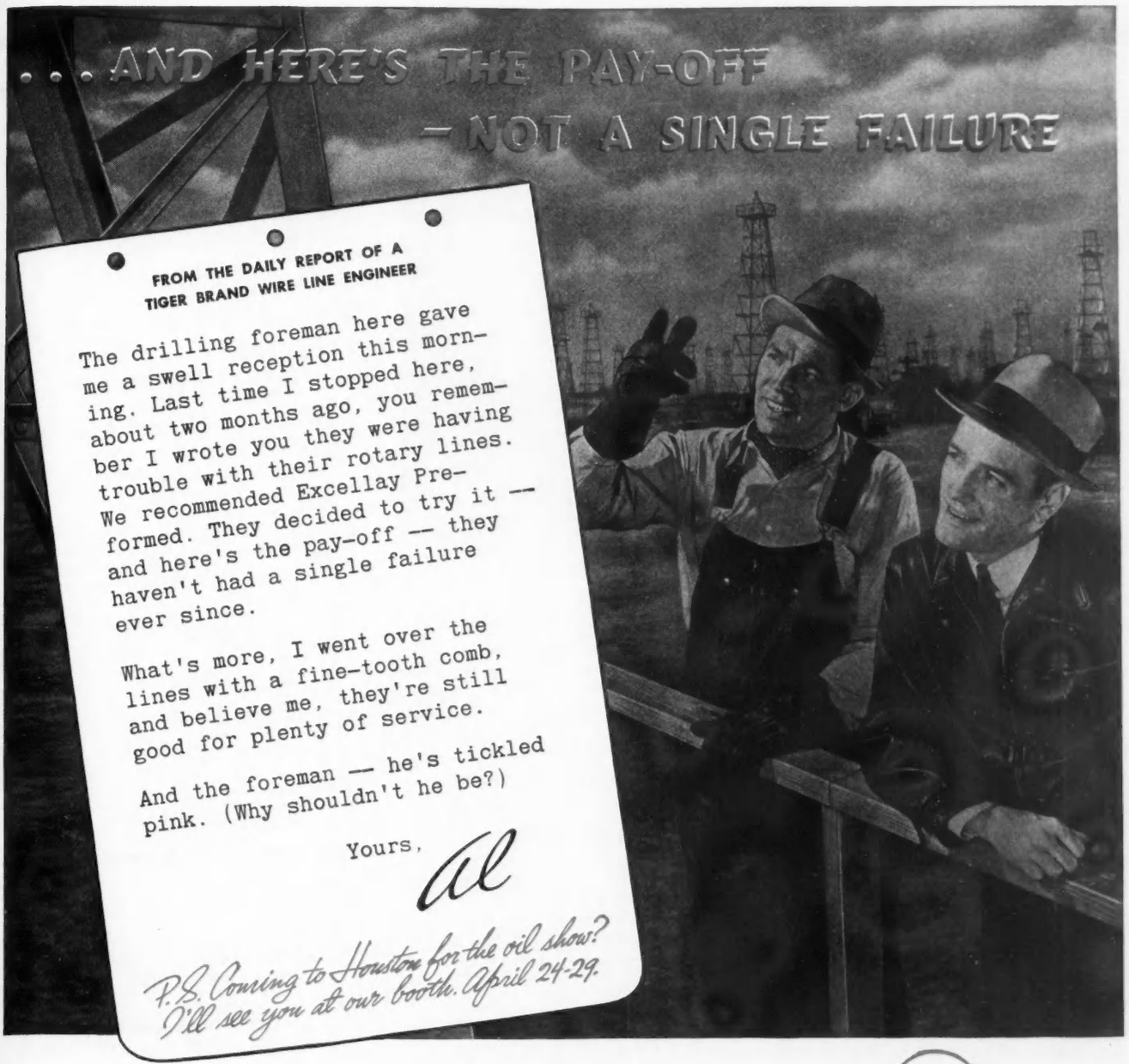
REPRESENTATIVES: J. P. Ratigan, president; J. J. Cave, sales manager; C. J. Ratigan, salesman; G. M. Seybold, salesman; and L. W. Henshaw, salesman.

Armstrong Machine Works

THREE RIVERS, MICHIGAN
Booth 1564

EXHIBIT: Glass model of Armstrong trap operating at 5 pounds steam pressure, "Black" light exhibition showing operating cycle of the trap, models of piston-operated traps designed for handling large volumes of condensate, and model of forged steel traps.

REPRESENTATIVES: T. H. Rea, sales manager; O. E. Ulrich, factory representative; G. B. Allan, district representative; and Paul Hewitt, salesman.


. . . AND HERE'S THE PAY-OFF
— NOT A SINGLE FAILURE
FROM THE DAILY REPORT OF A
TIGER BRAND WIRE LINE ENGINEER
The drilling foreman here gave me a swell reception this morning. Last time I stopped here, about two months ago, you remember I wrote you they were having trouble with their rotary lines. We recommended Excellay Preformed. They decided to try it — and here's the pay-off — they haven't had a single failure ever since.
What's more, I went over the lines with a fine-tooth comb, and believe me, they're still good for plenty of service.
And the foreman — he's tickled pink. (Why shouldn't he be?)
Yours,
al
P.S. Coming to Houston for the oil show? I'll see you at our booth. April 24-29.

TURN your wire line questions over to an American Tiger Brand Wire Line Engineer. He lives and breathes wire lines, spends most of his time seeing them in action, checking their performance, studying ways and means of saving you money.

These engineers know what they are talking about, because they spend most of their time right out where the lines are used. They know what punishment they have to stand and how to stretch your wire line dollar. Since American Tiger Brand Wire Lines are made in all constructions and grades, our engineers can specify for you the type which is best suited for your purpose. Write for data.

EXCELLAY
Preformed
WIRE LINES

AMERICAN STEEL & WIRE COMPANY
Cleveland, Chicago and New York
COLUMBIA STEEL COMPANY
San Francisco
United States Steel Products Company, New York, *Export Distributors*

UNITED STATES STEEL

M. M. Kinley Company

HOUSTON, TEXAS
Booth 537

EXHIBIT: Weight indicator, unlatching tool, wire line cutting gun, screen cleaning shooting device, and a boiler water gauge column.

REPRESENTATIVES: M. M. Kinley and O. V. Borden.

Pittsburgh Equitable Meter Company

PITTSBURGH, PENNSYLVANIA

Merco Nordstrom Valve Company

PITTSBURGH, PENNSYLVANIA
Booths 335, 337

EXHIBIT: Nordstrom lubricated plug valves, Stupakoff bottom-hole pressure gauge, Stupakoff bottom-hole sampler, Emsco Type 38 forged steel orifice meters, Raybould fittings, gas regulators, water meters, oil and gasoline meters, Pittsburgh Rotocycle meter for oil pipe line measurement.

NEW PRODUCTS:

Emsco Type 38 Orifice Meter—This meter is designed for measurement of gas, steam, oil and other liquids. It has forged steel chambers and covers, the standard meter being tested for 1500 pounds working pressure. Available in pressure ranges from a vacuum up to 4000 pounds, and quickly convertible from one pressure range to another.

Pittsburgh Rotocycle Meter—An accurate, large capacity, positive displacement meter for pipe line measurement. Capacities range from 150 to 3000 barrels per hour, with a maximum working pressure of 1000 pounds. There are no reciprocating parts or pocketers. It is self cleaning. Paraffin deposits do not affect accuracy. Oil flows through Rotocycle as a continuous streamlined cycle with inappreciable loss in pressure. All working parts are accessible without removing meter from line.

Raybould Coupling—A coupling for quickly and easily making pressure-tight, flexible connections on plain end pipe. No threading required. Only a wrench necessary to make tight joint. Full cathodic protection is given; every joint is an electrical conductor. May be used on lines carrying practically all types of products.

REPRESENTATIVES: A. J. Kerr, district manager; L. A. Babin; E. P. Martin; and L. R. Van Arsdale.

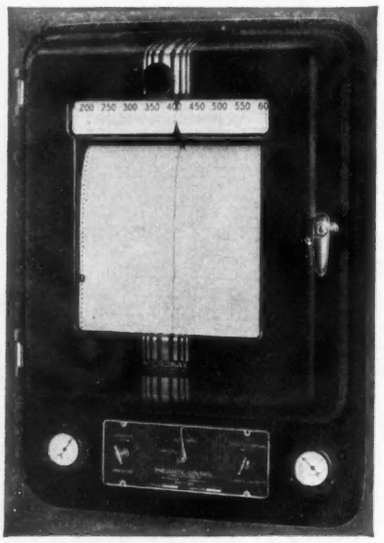
Leeds and Northrup Company

PHILADELPHIA, PENN.
Booth 329

EXHIBIT: Micromax pneumatic control. Micromax single-point recorder. Micromax multiple-point recorder.

NEW PRODUCTS:

Micromax Pneumatic Control—This instrument, for steady control of temperature and increase of process yield, is made in one unit, ready to install. It



Micromax Pneumatic Control

employs a powerful pneumatic balance and a rugged pilot valve. The balance method and the machine-like mechanisms are extended throughout a unified automatic control.

REPRESENTATIVES: R. E. Hansen, Houston; W. W. Streever, Houston; M. E. Griffith, Tulsa; G. C. Graf, Philadelphia; and G. W. Tall, Jr., industrial sales manager, Philadelphia.

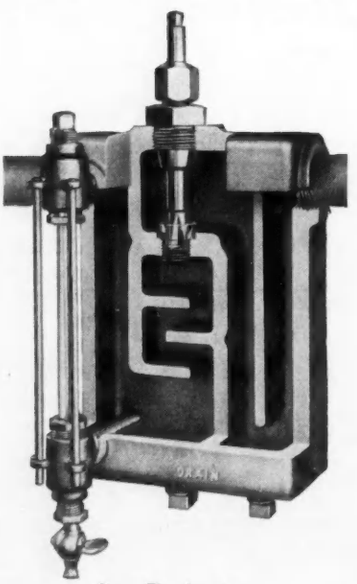
Coe Manufacturing Company

PAINESVILLE, OHIO
Booth 1323

EXHIBIT: Coe Drainator steam trap.

IMPROVED PRODUCTS:

Coe Drainator—This steam trap has no moving parts and is equipped with gauge glass and an adjustable orifice which requires only one adjustment with any installation. The manufacturer states it eliminates all condensate and air without steam loss. It requires no by-pass and is not subjected to periodic failures. It is suitable for pressures up to 250 pounds in cast iron and 450 pounds in steel without any change of orifice.



Coe Drainator

REPRESENTATIVES: C. W. St. Clair, Painesville, and Frank M. Esch, Houston.

Productive Equipment Corporation

CHICAGO, ILLINOIS
Booth 155

EXHIBIT: Mud Hog vibrating screen.

NEW PRODUCTS:

Mud Hog Vibrating Screen—A positive eccentric type adjustable as to the amount of eccentricity so that it may be operated with the minimum stroke for satisfactory screening of the rotary mud. Mud screening portion is mounted on a mud collecting pan on skids for easy portability.

REPRESENTATIVES: L. E. Soldan, chief engineer, and G. J. McLernon, sales representative.

Republic Steel Corporation

CLEVELAND, OHIO

Berger Mfg. Division

CANTON, OHIO

Niles Steel Products Division

NILES, OHIO

Steel & Tubes, Inc.

CLEVELAND, OHIO

Truscon Steel Company

YOUNGSTOWN, OHIO

Union Drawn Steel Division

MASSILLON, OHIO
Booths 125, 127, 129, 131, 133, 135, 137, 139

EXHIBIT: Line pipe, casing and tubing sections. Republic alloy steel products including rotary rock bits, fishtail bits, tool joints, core barrel, slips, pump rods, elevator, tubing catcher and forgings. Enduro stainless steel products including water well screen, valves and fittings, forgings and miscellaneous pieces. Sucker rods display. Upson bolts, nuts and studs. Fencing and other wire products. Toncan Iron sheets and roofing products. Cold drawn shafting from Union Drawn Steel Division. Boiler tubes, mechanical tubing, stainless steel tubing and conduit from Steel and Tubes, Inc. Oil containers from Niles Steel Products Division.

REPRESENTATIVES: J. M. Schlendorf, assistant vice president, in charge of sales; W. M. Neckerman, assistant vice president, in charge of operations;

N. W. Foy, general sales manager; J. E. Holmes, manager of pipe sales; Manly B. Brown, assistant manager of pipe sales; G. F. Hess, assistant manager of alloy steel sales; Charles W. East, Houston district sales manager; Hoyle Jones, Tulsa district sales manager; Giles R. Locke, metallurgical engineer; Ralph Farley, Houston sales representative; E. B. Kelley, sales representative, Steel and Tubes, Inc.; I. Whitehouse, advertising and sales promotion manager, Steel and Tubes, Inc.; and C. W. Ruth, assistant director of advertising.

Dedman Foundry and Machine Company

HOUSTON, TEXAS
Booth 1119

EXHIBIT: Steel castings.

REPRESENTATIVES: H. W. Dedman, president and manager; C. E. Newton, assistant manager and secretary-treasurer; L. J. Guenther, sales representative; J. L. Blair, foundry superintendent; and C. K. Flagg, metallurgist.

Howard Smith Company

HOUSTON, TEXAS
Booth 1107

EXHIBIT: Variable chokes for oil wells. Stancliff well screen.

NEW PRODUCTS:

Smith Variable Choke—This choke has six flow beans in series, each operated by a quarter-turn of the stem. The first flow bean has the function of a valve; the other five have chokes of any selected sizes. The choke is tested to 8000 pounds of cold water pressure and is pressure lubricated with grease through fittings at the bottom of each flow bean.

REPRESENTATIVES: Howard F. Smith, president; Edward Burns, vice president; P. F. Matlock, sales manager; E. E. Davidson, salesman; C. W. Wood, salesman; C. Matlock, salesman; W. B. Robinson, salesman; A. R. Mooney, salesman; Charles H. Wilder, salesman; and Hill D. Wilson, superintendent.

Diamond Chain & Manufacturing Company

INDIANAPOLIS, INDIANA
Booths 1138, 1140

EXHIBIT: Roller chains used on pumping units, and for drilling and servicing equipment. Chain sprockets. Double chain type flexible shaft coupling. Typical oil country chains.

NEW PRODUCTS:

Double Chain Type Flexible Shaft Coupling—This is a new and improved type flexible shaft coupling for double chains.

REPRESENTATIVES: J. L. Wamsley, district manager; W. A. Warrick, mechanical engineer; H. L. Martin, sales and advertising.

Sabine Supply Company

ORANGE, TEXAS
Booth 1137

EXHIBIT: Photo-Murals of operations and materials.

REPRESENTATIVES: Frank Scott, salesman; Carroll Graham, salesman; Earl Baker; and Tommy Hughes, vice president.

Fruehauf Trailer Company

DETROIT, MICHIGAN
Booth 1016-A

EXHIBIT: Tank trailer and pole trailer.

REPRESENTATIVE: J. W. Youngblood, Dallas manager.

Volcano Burner Company

HOUSTON, TEXAS
Booth 1544

EXHIBIT: Volcano Superior gas burner and Gulf State gas burner.

NEW PRODUCTS:

Volcano Superior Gas Burner—This all-steel, low pressure gas burner, designed for the largest new type boilers used in rotary drilling, incorporates an improved method of installation which permits moving of boilers without removal of the burner from firebox, a new design of air-cooled burner head which insures perfect combustion and the proper handling of secondary air, and a simplified installation so that burner may be installed or removed in 20 or 30 minutes.

REPRESENTATIVES: Roy S. Dodd, president, and J. H. Mitchell, store manager.

Utility Electric Steel Foundry

LOS ANGELES, CALIFORNIA
Booth 1400

EXHIBIT: Hot oil pump stainless steel parts and chrome molybdenum vanadium stainless plungers. Bubble caps, vapor pipes and return bend plugs. Carburizing and cyanide pots and boxes. 18-8 stainless steel interior parts for pump, gas regulators and orifice fittings. 18-8 stainless parts for salt and mine water service. Heat resisting miscellaneous parts.

REPRESENTATIVES: J. T. Kidd, sales engineer; Ralph Fannin, district representative; and Frank K. Bennett, sales representative.

Advanced Petroleum Equipment Corporation

HOUSTON, TEXAS
Booth 1024

EXHIBIT: Polished rod and beam hanger. Pressure lubricator and chemical pump.

NEW PRODUCTS:

Pressure Lubricator and Chemical Pump—This product was designed to eliminate fifty percent of the moving parts on lubricators.

Polished Rod and Beam Hanger—Allows a rocking motion and eliminates strain on stuffing box and connections. The polished rod is carried on ball-bearing race which eliminates parting of sucker rods and the scoring barrel. The hanger has a mechanical rotating means, forcing rotation of sucker rods on each stroke of the walking beam.

REPRESENTATIVES: J. L. Johnston, Frank Dana and E. L. Johnston.

Thompson Tool Company, Inc.

IOWA PARK, TEXAS
Booth 1016-C

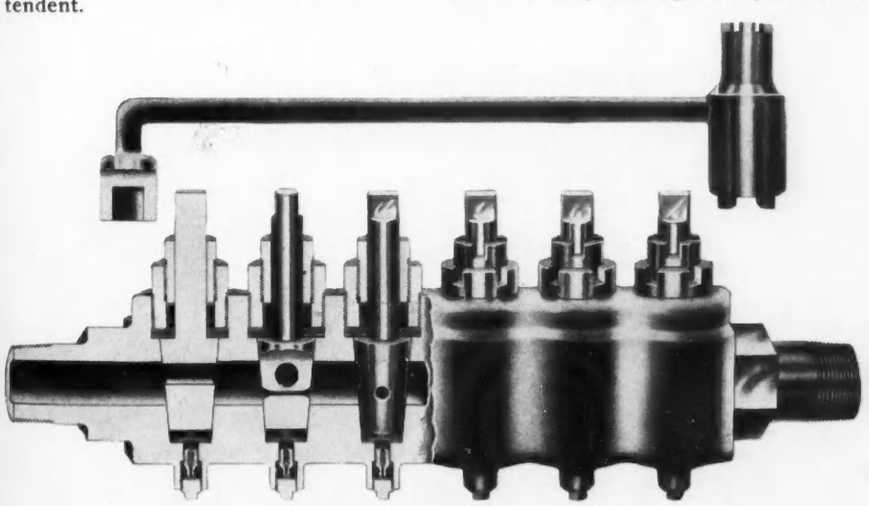
EXHIBIT: Shale separator and sample machine. Carson slush pump booster. Finger board. Cable guide.

NEW PRODUCTS:

Carson Slush Pump Booster—A new idea which feeds the mud pump, taking vacuum off of suction and effecting a saving on pump parts.

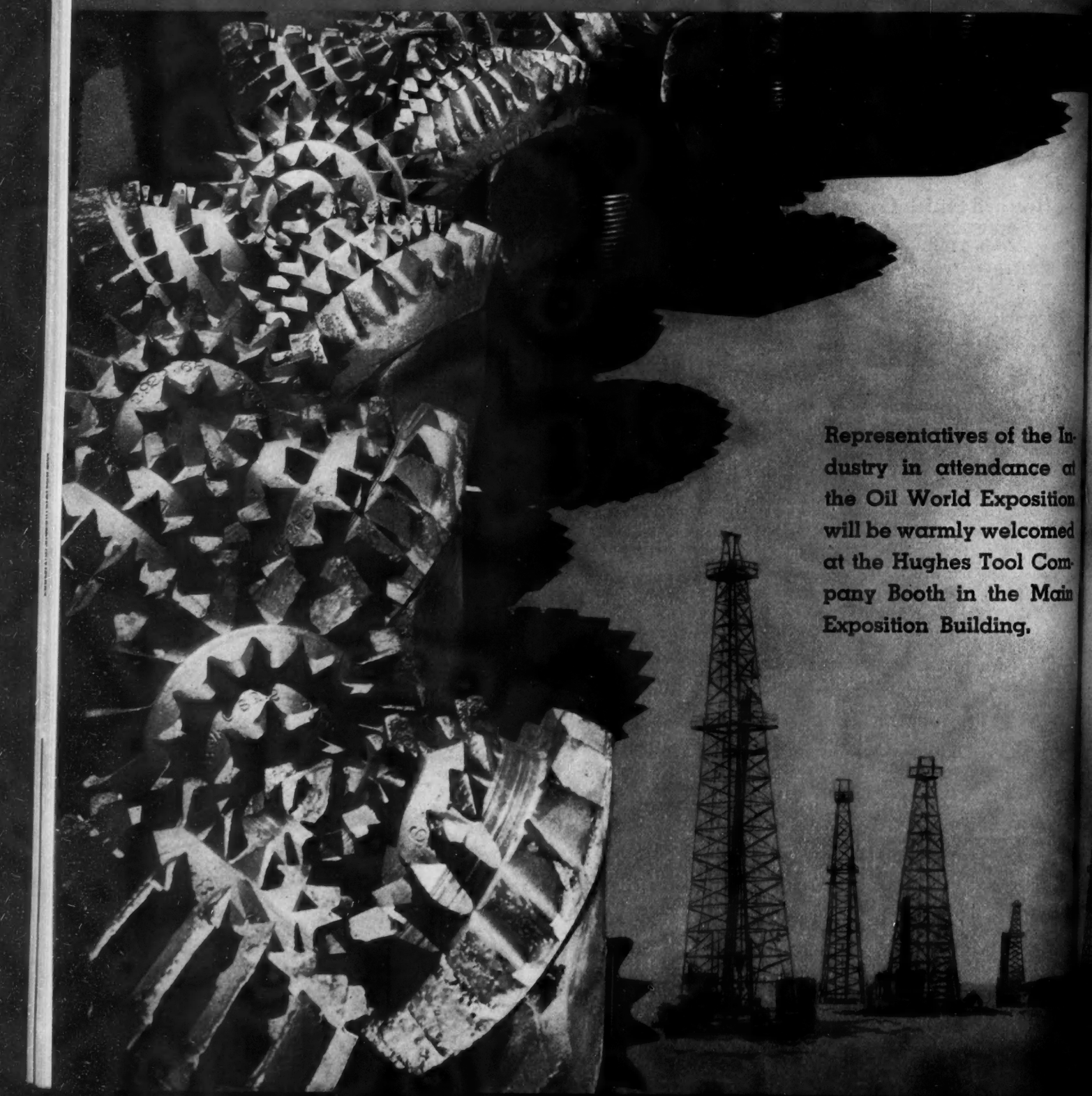
Finger Board—This new folding finger board is a safety measure and speeds up the racking of pipe and tubing.

Cable Guide—A new roller type rub-



Howard Smith variable choke

Get Acquainted with Latest Developments
-Known the World over fo



Representatives of the Industry in attendance at the Oil World Exposition will be warmly welcomed at the Hughes Tool Company Booth in the Main Exposition Building.

Hughes "Tailor-Made" Rock Bits for Superior Performance . .

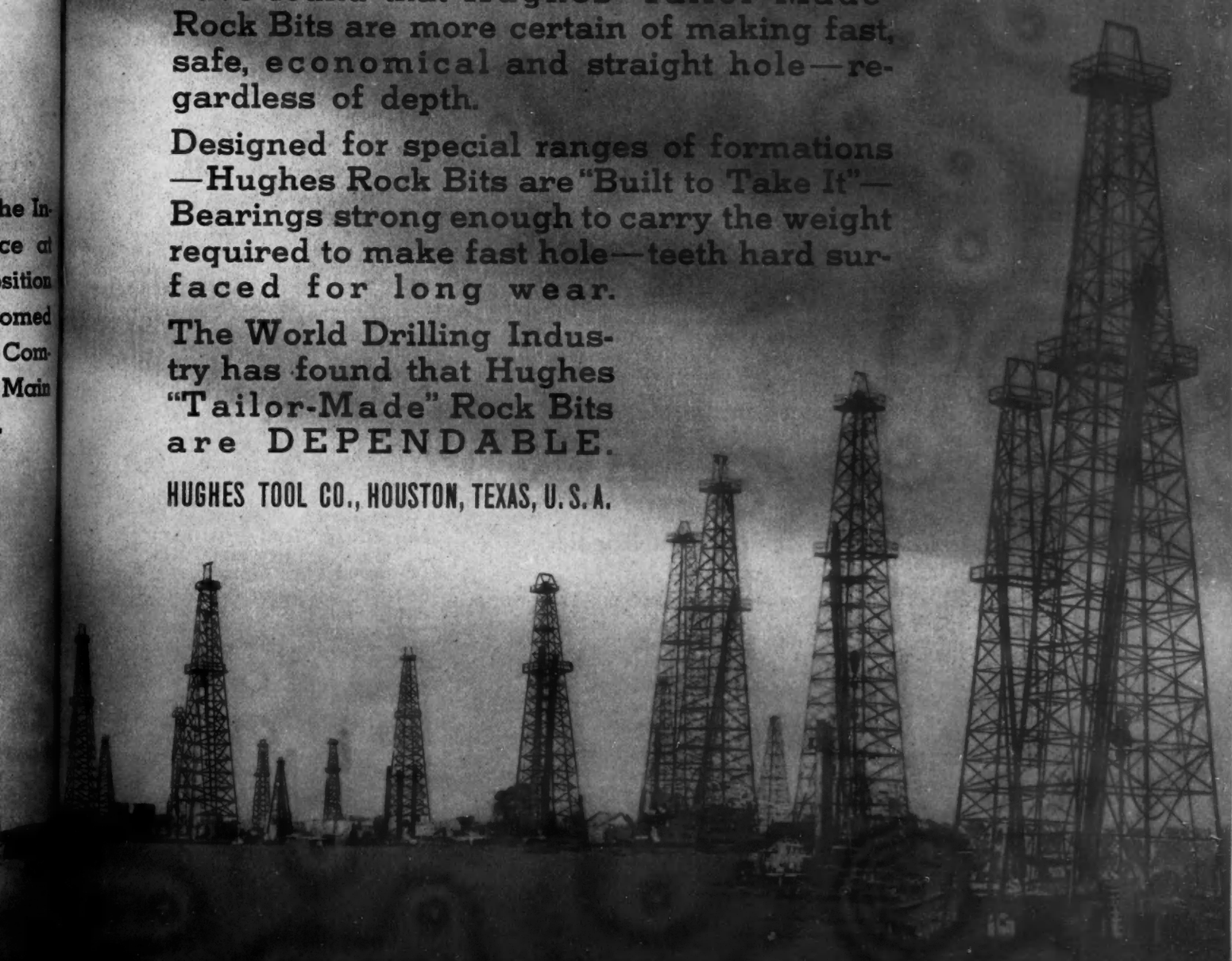
As increasing depths create more difficult drilling problems, Modern Drilling Practice overcomes them.

Operators, Contractors and Drillers throughout the rotary fields of the world have found that Hughes "Tailor-Made" Rock Bits are more certain of making fast, safe, economical and straight hole—regardless of depth.

Designed for special ranges of formations—Hughes Rock Bits are "Built to Take It"—Bearings strong enough to carry the weight required to make fast hole—teeth hard surfaced for long wear.

The World Drilling Industry has found that Hughes "Tailor-Made" Rock Bits are DEPENDABLE.

HUGHES TOOL CO., HOUSTON, TEXAS, U. S. A.



ber-covered guide which is designed to eliminate wear on cables and make them run true.

Shale Separator and Sample Machine—This shale separator is a screen drum type operated by the flow of mud. To this separator is attached the sample machine, an entirely new idea, which takes mud from the flow line, washes cuttings clean and produces an accurate sample of mud and shale for geological purposes for every foot of hole drilled.

REPRESENTATIVES: L. L. Thompson, president, and W. H. Clark, factory representative.

Wickwire Spencer Steel Company

NEW YORK, NEW YORK
Booths 359, 361

EXHIBIT: Paneled display with illusion box, stressing service and low costs of Wickwire drilling lines and other ropes.

REPRESENTATIVES: R. L. Foster; vice president; Gordon S. Nees; M. J. Jones; O. C. Elliott; and E. J. Daly.

Ahlberg Bearing Company

CHICAGO, ILLINOIS
Booth 1234

EXHIBIT: Ball bearings. Roller bearings. Pillow blocks.

REPRESENTATIVES: P. H. Staerk, industrial division manager; F. S. Barkdoll, Dallas branch manager; and J. I. Cleveland, salesman.

Tretolite Company

DALLAS, TEXAS
Booths 638, 640

EXHIBIT: Electrical display of the Tretolite method of conditioning crude oil to pipe line requirements.

REPRESENTATIVES: K. R. Farr, vice president; Gordon S. Nees; M. J. Mullally; and E. H. Dayvault.

S-K-F Industries, Inc.

PHILADELPHIA, PENNSYLVANIA
Booths 756, 758

EXHIBIT: Complete line of S-K-F ball and roller bearings and transmission appliances.

REPRESENTATIVES: R. H. DeMott; F. E. Ericson; Robert C. Byler; A. H. Schmal; J. L. Brusca; W. F. Weidner; H. L. Gaddis; R. W. Carroll; H. A. Dixon; and A. Katzenberg.

Bailey Meter Company

CLEVELAND, OHIO
Booth 1324

EXHIBIT: A line of meters and controllers, together with diagram illustrating their application to the control of tube-still furnaces in accordance with temperature, in situ density, and yield-per-pass.

REPRESENTATIVES: H. M. Hammond, sales and engineering manager, and C. M. Kunkel, Houston branch office manager.

W. H. Curtin and Company, Inc.

HOUSTON, TEXAS
Booths 358, 360 and 459, 461

EXHIBIT: Automatic pH indicator and recorder. Front view Ful-Kontrol petroleum distillation apparatus. Grease channel tester for rear-axle lubricants. New smoke tendency lamp for determination on all grades of kerosene. Industrial Viscometer. Indicating and recording pressure gauges. Manometers. Heavy-duty hand centrifuges. Electric centrifuges. Safety and relief valves. Chainomatic analytical balances. Analyzed chemicals. Color slide projector. Pyrex glassware. Exax Blue Line glassware. Porcelain laboratory ware. Combustion testing equipment. Indicating and recording Potentiometers. Numerous improved oil testing equipment.

REPRESENTATIVES: W. H. Curtin, president; B. A. McEnnis, vice president; K. H. Clough; M. A. Smith; J. A. Muller; and B. B. Manuel.

Darling Valve and Manufacturing Company

WILLIAMSPORT, PENNSYLVANIA
Booths 351, 353

EXHIBIT: All bronze gate valves. Special alloy gate valves. Pipe line and flow line gate valves. Forged steel drilling through and flow line gate valves. Semi-steel pipe line, flow line and gathering line gate valves. Cast steel gate valves for use on refinery and high pressure power piping. Fire hydrants. Balls and seats. Darcova, Darval and Darflex valve cups.

REPRESENTATIVES: J. S. Kiesel, chief engineer, and M. L. Hough, vice president and treasurer.

L. H. Gilmer Company

PHILADELPHIA, PENNSYLVANIA
Booth 767

EXHIBIT: V-Belts of multiple-drive and fractional horsepower sizes. Kable Kord flat belting in endless and running lengths.

REPRESENTATIVES: M. R. Oberholzer, sales manager; C. P. Williams, Texas district manager; D. A. Cant, Oklahoma district manager; Fred Sintes, Jr., Louisiana district manager; and C. O. Mitchell, division engineer.

Merco Centrifugal Company

SAN FRANCISCO, CALIFORNIA
Booth 1048

EXHIBIT: Merco Type A-24 centrifugal rotary drilling mud desander.

NEW PRODUCTS:

Centrifugal Rotary Drilling Mud Desander—This new machine, of a size and capacity between the Type A-20 and Type A-30 which have been in use in the oil fields for the past decade, embraces the same principles of separation and operation as the older machines but is more efficient, lighter and compact. It represents a considerable saving in cost over Type A-20 and is expected to replace both the A-20 and A-30 Types.

REPRESENTATIVES: Albert Peltzer, Jr., field engineer, and Clarence J. Brown, vice president and general manager.

Crane Company

CHICAGO, ILLINOIS
Booths 745, 747, 749, 751

EXHIBIT: Valves running from ⅛ inch up to 8 inches. Complete line of fittings. Various types of Crane shop welding.

REPRESENTATIVES: R. A. Hendrickson, oil sales manager; W. H. Pape, valve and fitting sales manager; B. E. Foster; E. V. Parker, Houston branch office manager; and T. M. Lowe, display and exhibit department.

American Cast Iron Pipe Company

BIRMINGHAM, ALABAMA
Booth 1066-B

EXHIBIT: A display truck, equipped with samples of Mono-Cast centrifugal pipe and the latest design of fittings, joints and accessories. High pressure tests of pipe and joints, bending tests of pipe, and a machine to illustrate the centrifugal principle of casting Mono-Cast pipe.

REPRESENTATIVES: H. D. Hughes, Dallas office manager, and R. E. Magee, Houston representative.

Oil Well Supply Company

DALLAS, TEXAS
Booths 532, 534, 536, 538, 540

EXHIBIT: Pictorial presentations of the design and application of modern oil field machinery.

REPRESENTATIVES: Houston representatives.

Climax Molybdenum Company

NEW YORK, NEW YORK
Booth 1129

EXHIBIT: Reception space.

REPRESENTATIVES: R. L. Wilson; J. E. Wilson; H. E. Hostetter; and P. M. Snyder.

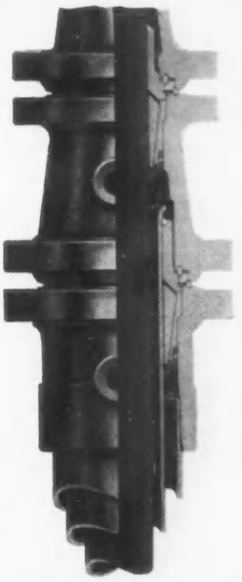
Lebanon Steel Foundry

LEBANON, PENNSYLVANIA
Booths 1419, 1421

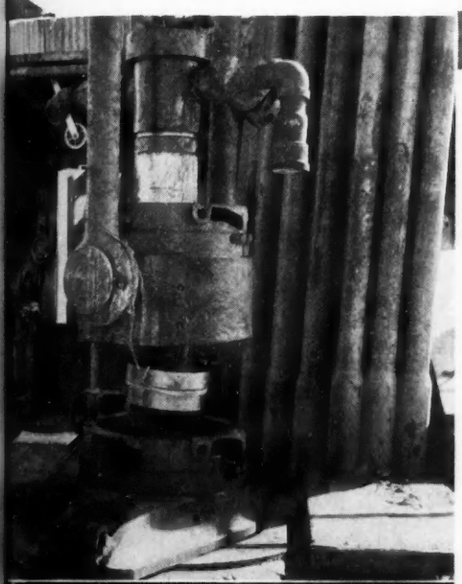
EXHIBIT: Regulating valve parts. Gas meter parts. Gate and globe bodies. Pump castings and other pump parts. Flow line headers and return bends for stills. Pipe line couplings. Drill bits. Casing slips. These products are made with various Circle L alloys.

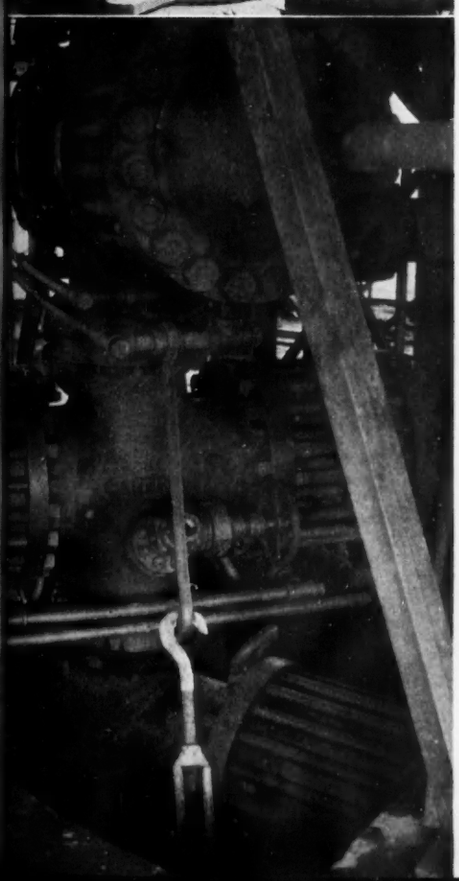
REPRESENTATIVES: W. H. Worrilow, president; A. J. McDonald, vice president; P. E. Gerhard, sales engineer; W. B. Sullivan, sales department; and C. H. Folwell, Jr., Texas representative.

THE WORLD'S SECOND LONGEST STRING OF 9⅝" O.D. CASING IS ALSO SUSPENDED ON A CAMERON SLIP-SUSPENSION CASING HEAD!



Cross-section view of Cameron Type "C" Casing Head Housing and Spool in a 3-string hook-up. Note the Type "F" Slip Bowl with neoprene lip seal, which effects an annular space seal the instant pipe is suspended on the slips.





Above—Cameron Type "F" Slip Bowl suspended below the elevators, ready to be lowered to its seat in the Cameron Casing Head Housing.

Left—The complete Cameron Pressure Operated Drilling Control Hook-up installed on Kenilworth No. 1. Cameron Type "C" Casing Head Housing (not visible) is flanged directly below the lower Drilling Control Unit, namely a Cameron Pressure Operated Master Gate Valve.

Vendome Petroleum Corp. Sets 10,808' String in Record Time of 14 Hours!

To Vendome Petroleum Corporation, on their Kenilworth No. 1, St. Bernard Parish, Louisiana, go the honors for successfully running and cementing, in the record time of fourteen hours, the world's second longest string of 9⅝" casing, namely 10,807.9' weighing 483,673 pounds.

And, for the second time in recent weeks, in connection with the world's two longest and heaviest strings of 9⅝" casing, Cameron Type "C" Slip-Suspension Casing Heads demonstrated their advantages of design and construction.

After setting 1,982' of 13⅜" O.D. surface casing, 12¼" hole was drilled to 10,880'. One of the most complete drilling control hook-ups in the oil industry afforded maximum protection at each stage of the drilling and casing running operations. It consisted of: two 12" Series 900 API—6,000 lbs. test—Cameron Type SDA Pressure Operated Blowout Preventers, one 12" Series 900 API—6,000 lbs. test—Cameron Pressure Operated Master Valve, and one 6" Series 900 API—6,000 lbs. test—Cameron Pressure Operated Flow-line Valve.

After cement had set, stretch was taken on the casing and the Cameron slip bowl and slips were lowered through the full opening drilling control hook-up to their seat in the Casing Head Housing to suspend the long, heavy string. Upon removal of the Blowout Preventer equipment, the casing was cut off above the slip bowl and welded to an auxiliary welding hanger with a pressure-tight weld, and then the casing was "belled"—all as illustrated in the drawing above. At this point, a Cameron Type "C" Casing Head Spool, equipped with the unique Flex-Steel Multi-Ring Gasket Assembly, was flanged above the Casing Head Housing to provide a leak-proof seal between strings, and between flanges of the Casing Head Housing and Spool, both pressure-tight seals being controlled externally and entirely by means of the flange studs that tie the two flanges together.

With the Cameron Pressure Operated Drilling Control Hook-up flanged above the Casing Head Spool, drilling was resumed in Kenilworth No. 1, in which several excellent oil sands are reported to have been logged already.

CAMERON IRON WORKS, INC.

711 Milby Street Houston, Texas

EXPORT: 74 TRINITY PLACE, NEW YORK, N. Y.

California Distributor: Howard Supply Co., Los Angeles

The Foxboro Company

FOXBORO, MASSACHUSETTS
Booth 1222

EXHIBIT: Recent developments in the line of pyrometric instruments. Illuminated photographs of Foxboro installations in oil fields.

REPRESENTATIVES: G. B. Lane, manager, Dallas office; J. B. McMahon, controller division manager; J. J. Burnett, manager, Chicago office; H. G. Griffith, manager, Houston office; E. L. Stark, sales engineer; C. L. Bryan, sales engineer; E. A. Thomas, sales engineer; and J. Heinzerling, sales engineer.

Keuffel and Esser Company

HOBOKEN, NEW JERSEY
Booth 1139

EXHIBIT: Wyteface steel tapes.

NEW PRODUCTS:

Wyteface "A" Gauging Tape—This new tape, designed to resist abrasion, has graduations and numbers of raised black metal on a crack-proof white surface. Field tests show that it is ideal for gauging crude oil where wear against the gauge hatch, sandy residues and constant wiping are factors.

REPRESENTATIVE: A. D. Tasker.

Haynes Stellite Company

NEW YORK, NEW YORK
Booths 109, 111, 113, 115

EXHIBIT: Applications of Haystellite cast tungsten carbide and Haynes Stellite wear-resistant hard-facing rods. Use of Haystellite products for hard-setting and hard-facing oil well bits. Use of Hastelloy alloys for minimizing corrosion losses in refinery equipment handling sulphuric and hydrochloric acids will be demonstrated.

REPRESENTATIVES: E. E. LeVan, vice president and general sales manager, Kokomo, Indiana; C. W. Metzger, Houston district sales manager; W. S. Tromley, Tulsa district sales manager; F. S. Badger, research metallurgist, Kokomo, Indiana; R. L. Lerch, advertising manager, Kokomo; and W. A. Wissler, assistant manager of Union Carbide and Carbon Research Laboratories, Inc., Niagara Falls, New York.

Olympic Products Company

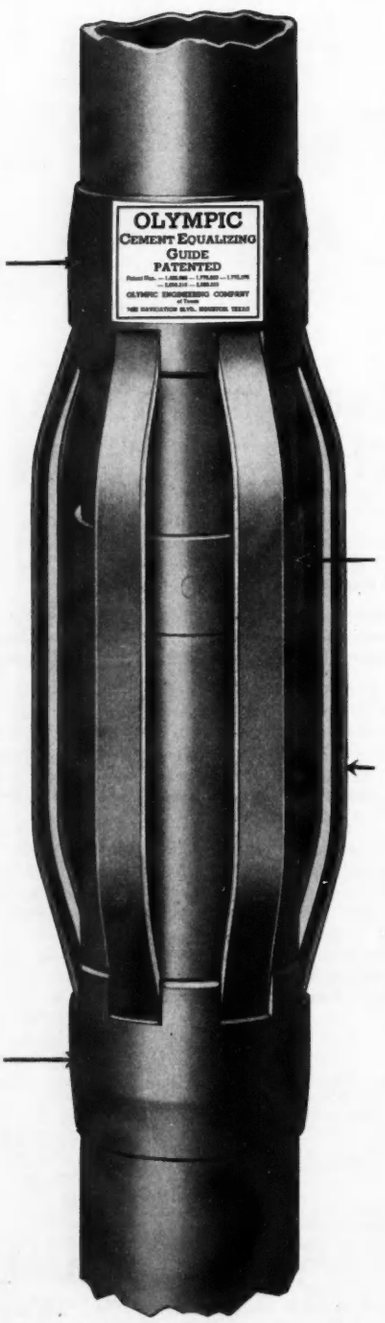
LOS ANGELES, CALIFORNIA
Booth 254

EXHIBIT: Olympic packers. Liner hangers. Equalizing cement guides. Line guide (spoolers). Rubber joint thread protectors. Molded rubber products.

NEW PRODUCTS:

Olympic Equalizing Cement Guide—This device is used to firmly center casing in water streams and in multiple stage or combination cementing, thereby assuring an equal thickness of cement around the casing and safeguarding against water leakage or channeling. Where formations are blanked off and cemented for gun or mechanical perforation in the well, the use of these guides above and below each body of oil and water provides the security of a uniform body of cement. This equalizing guide, used on perforated or slotted liners, protects perforations against clogging by holding them away from the formation in the process of setting and holds the liner firmly centered when it is landed in the oil sand. It assures clean openings and an immediate free flow of oil through all the screening apertures.

Olympic Line Guide (Spooler)—This device is designed 50 inches long with rigid 38-inch arms between the body of the guide (spooler) and the curb to which the line is fastened, preventing whip during operations and thus protecting the wire line from premature deterioration. When installed, the guide hangs perpendicular with the drilling line, and the drilling line spools on the drum straight provided the line is started straight on the drum, thus permitting the guide to operate perfectly since there is no weight at any point to pull the guide out of line.



Olympic Equalizing Cement Guide

Molded Rubber Thread Protectors—These protectors are made for both pin and box in A. P. I. and full hole, and are used to protect tool joint threads during transportation and while not in use. They will not stick upon the threads since a solution or paste is furnished at slight extra expense to prevent sticking from heat or other elements.

REPRESENTATIVES: R. R. Renouf and R. V. Stout, Mid-Continent representative.

Shafer Bearing Corporation

CHICAGO, ILLINOIS
Booths 1514, 1516

EXHIBIT: Self-aligning roller bearings, pillow blocks and other mounted units. Seven-inch electric welded steel pillow block for use on heavy duty draw works. A bent shaft display consisting of a shaft with a 1½° bend mounted in two pillow blocks and revolving at slow speed.

REPRESENTATIVES: R. B. Hoover, president; M. J. Tennes, Jr., vice president; J. Dan Malone, sales manager; A. H. Williams, chief engineer; E. H. Verrall, advertising manager; George J. Fix, Sr., and George J. Fix, Jr., Texas and Oklahoma representatives; A. S. Kennedy, Kansas and Nebraska representative; J. H. Sprenger, Louisiana and Tennessee representative; and E. D. Maltby, California representative.

American Optical Company

SOUTHBRIDGE, MASS.
Booth 531

EXHIBIT: Safety spectacles. Safety goggles. Safety clothing. Welding helmets. Face shields. Respirator.

NEW PRODUCTS:

Respirator—This new respirator, No. R-1000, has been approved by the Bureau of Mines. Its features are compactness, light weight, unobstructed vision, facial adjustment unnecessary, improved valves which ease exhalation and inhalation, easy to keep in efficient working order, and an effective filter area.

Safety Clothing—This new and complete line of gloves, sleevelets, leggings, aprons, hats and hoods, is available in a variety of materials to protect workmen from heat, fire, acids, cuts, abrasions, etc.

Welding Helmets and Hand Shields—These devices are made of high grade vulcanized fibre, in either fabricated or one-piece construction.

Face Shields—These new face shields, although not designed to re-

place goggle protection, are suitable for light duty work on operations such as metal hand sawing, sanding, buffing, and light grinding.

REPRESENTATIVES: Howard Bourne, Dallas; W. G. Engel, Kansas City; C. H. Gallaway and T. P. Welch, Southbridge, Mass.

International Derrick and Equipment Company

COLUMBUS, OHIO
Booth 1047

EXHIBIT: Ideco unit pumper. Ideco 4-M portable rotary drilling rig. Oilbath rotary, 17¼-inch size. Traveling and crown blocks.

NEW PRODUCTS:

Ideco Unit Pumper—This new pumper embodies the use of Needle-Type Beam Bearings, all which are self-aligned roller bearings, totally enclosed and perfectly sealed. These bearings are pressure lubricated from the Samson Post. Each pumper is equipped with the new Ideco Wheel-Type Counterbalance, which permits easy and safe adjustment and gives the utmost in precision balancing. Wrist pins are equipped with self-aligning double Timken bearings, self-aligning in seal enclosed housings.

REPRESENTATIVES: L. J. Brown, president; C. R. Athy; J. M. Aitken; H. F. Shepherd; R. R. Bloss; W. H. Cumberland; C. G. Booker; E. H. Eddleman; L. L. Powell, and J. A. Tidball.

Sperry-Sun Well Surveying Company

HOUSTON, TEXAS
Booths 544, 546

EXHIBIT: Syfo Clinograph. H-K Magnetic Single Shot. H-K Inclinometer. Surwel Gyroscopic Clinograph. Polar Core Orientation. Magnetic orientation of directional drilling tools.

NEW PRODUCTS:

Syfo Clinograph—A new type of "Go-Devil" protective casing which has been successfully used in "Go-Deviling" Syfo down to a depth of 12,500 feet, obtaining the record of inclination in an extremely short space of time.

H-K Magnetic Inside Single Shot—This instrument has protective casings of 1-11/16-inch, 1¾-inch, and 2-inch diameter, and can be lowered inside the drill pipe and extended below the bit when making readings for direction and inclination when using a removable core barrel. When obtaining a record of inclination and direction, it is not necessary to make a round trip with the drill pipe. This instrument can be used also for making inclinometer readings only inside the drill pipe, disregarding the compass readings. It can be used in open hole, in which case it is desirable to use an available protective case.

H-K Inclinometer—This instrument gives accurate inclinometer readings to 1/10th of a degree or better. The instrument is self-checking, as it will not make a satisfactory record unless at rest at the depth at which the record is being sought. The device can be "Go-Deviled," thereby obtaining inclination records in a short space of time.

Polar Core Orientation—Improvements in the method of Polar Core Orientation, as well as samples of cores, will be shown.

Magnetic Method of Orientation of Drilling Tools—This new and accurate method of orienting drilling tools consists of checking the orientation of the tool by means of two small magnets inserted in a sub or drill collar in the same plane as the drilling tool, and by lowering a single-shot instrument to a point where the compass of the instrument is opposite the magnets in the sub, thereby obtaining record of the direction at which the tool or whipstock is set in the hole.

REPRESENTATIVES: G. L. Kothny, vice president and general manager; R. L. Marston, regional manager; R. S. Hyer, district manager; and J. P. Klep, sales engineer.

Vapor Recovery Systems Company

COMPTON, CALIFORNIA
Booths 147, 149

EXHIBIT: Gas-tight automatic tank gauges. Swing line equipment, featuring double swing assemblies. Conservation vent units. Marine vent valves. Supersensitive regulator. Tank equipment.

NEW PRODUCTS:

"Varec" Pressure and Vacuum Relief Manhead Cover—This item was designed especially for installation on flow tanks at wells. It blows open if the gas trap over-loads or sticks, thus affording a free tank vent from 18½ inches to 24 inches in diameter. It also automatically takes care of vacuum conditions.

"Varec" Double Swing Line Assemblies—These provide a means of raising tank swing pipes as well as pulling them down, should they float up.

REPRESENTATIVES: Frank Long; Frank M. Holloway; T. E. Ward; and H. O. Johanson.

Line Scale Company, Inc.

OKLAHOMA CITY, OKLAHOMA
Booths 1230, 1232

EXHIBIT: Line scales (weight indicators).

NEW PRODUCTS:

P-S "Packer Special"—100 M pounds capacity.

P-J "Packer Junior"—75 M pounds capacity.

REPRESENTATIVES: J. C. Conrad, president; H. L. Conrad, secretary-treasurer; P. Z. Conrad, consulting engineer.

Air-Maze Corporation

CLEVELAND, OHIO
Booths 1335, 1337

EXHIBIT: Air-Maze oil-bath type air filters. Multimaze type air filters. Unimaze type air filters. Permanent cleanable panel filters. Oil-bath type filters with intake silencers. Panel housing assemblies ("Dog House" style filters). Breather protectors. Intake flame arrestors.

NEW PRODUCTS:

Air-Maze Oil Bath Filter and Silencer—This new unit, which is available in a number of sizes for large and small engines and compressors, is a combination of a scientifically designed acoustical chamber and a regular Air-Maze oil-bath type filter. The filter, with its oil bath action and extremely low restriction, assures correctly filtered air and requires little servicing attention. The silencer needs no attention.

REPRESENTATIVES: A. D. Barr, Southwestern representative; John Muller, Houston distributor; and C. J. Glanze, development engineer.

Murray Iron Works Company

BURLINGTON, IOWA
Booth 1571

EXHIBIT: Mechanical drive steam turbine and parts. Steam turbine driven unit heater.

REPRESENTATIVES: P. Schmertz, sales engineer, and Haylett O'Neill, representative.

United Supply and Manufacturing Company

TULSA, OKLAHOMA
Booths 1203, 1205

EXHIBIT: A. Leschen and Sons rope. Lovejoy flexible couplings. A general line of oil field supplies.

REPRESENTATIVES: H. B. Gutelius, president; F. P. Theiman, vice president; C. J. Halloran, vice president; C. M. Holland, Houston manager; W. T. Davis, salesman; and C. S. Herndon, salesman.

Marvel-Schebler Carburetor Division, Borg-Warner Corporation

FLINT, MICHIGAN
Booth 1518

EXHIBIT: Diesel injector. Oil burning carburetor.

REPRESENTATIVES: C. M. Kaltwasser, president; D. Firth, vice president; J. Storer, engineer; E. Rector, engineer; W. C. Pierce, regional manager; and Neil M. Hurry, service sales manager.

Greene, Tweed and Company

NEW YORK, NEW YORK
Booth 1567

EXHIBIT: Palmetto, Pelro, Palco, Cutno, Super-Cutno, and Glaso packing. Favorite reversible ratchet wrenches. Basa rawhide faced hammers. Empire rawhide mallets.

NEW PRODUCTS:

Glaso Packing—This packing, made of fiber glass yarn and lubricated with

COLONEL DRAKE WOULD SAY...

WHAT AN AMAZING INDUSTRY...

If Colonel Drake or his driller, Uncle Billy Smith, could look in on the Oil World Exposition at Houston, their amazement would be unbounded. Van Sickel, who thought his five-mile 2" pipe line at Pithole was too long, would be struck speechless. No less astonished would be the other pioneers who worked and dreamed for the development of America's petroleum wealth.

Yet . . . farsighted, pioneering as these men were, they could not have envisaged the oil industry as it is today.

The oil industry is *still* on the march. Changes in methods and practice take place overnight. To show the latest developments in oil field equipment, The Continental Supply Company and Associated Exhibitors have arranged a comprehensive exhibit at the Oil World Exposition in Houston, April 24-29. To this show and to Continental's exhibit you are most cordially invited.

THE CONTINENTAL SUPPLY COMPANY
DALLAS, TEXAS

IT'S PROGRESS NEVER STOPS!

OIL WORLD EXPOSITION ~ HOUSTON, APRIL 24-29

ASSOCIATED EXHIBITORS

Broderick & Bascom Rope Company » » Clayton Mark & Company
Climax Engineering Company » » D + B Pump and Supply Company
Emsco Derrick & Equipment Co. » » The Falk Corporation
Fairbanks, Morse & Co. » » Farrar & Trefts, Inc.
Gardner-Denver Company » » The Mechanical Rubber Company
New Bedford Cordage Co. » » Westcott Valve Company
The Youngstown Sheet & Tube Co.

Booths No. 328 - 330 - 332 - 334 - 336 - 340
429 - 431 - 433 - 435 - 437 - 441

CONTINENTAL

"Serving the Oil and Gas Industries"

a non-nitrating acid-resistant lubricant, is designed for service in acid and treating pumps. All materials used in its manufacture are acid-resistant. The packing is plaited and is available with standard graphite or mica finish.

REPRESENTATIVES: Frank J. Hill, sales manager, and Norman W. Wellingford, Western representative.

Plomb Tool Company

LOS ANGELES, CALIFORNIA
Booths 1570, 1572

EXHIBIT: Pry bars. Bearing scrapers. Box wrenches. Brass hammers. Calking tools. Cold chisels. Drift punches. Screw extractors. Concrete gads. Gear pullers. Hammers. Packing hooks. Open end wrenches. Phillips screwdrivers. Pliers. Punches. Ratchets. Rivet cutters. Slugging wrenches. Socket sets and attachments. Tool boxes.

REPRESENTATIVES: Don V. Scofield, assistant sales manager; Ray C. Ricke, salesman; and A. A. Freund, salesman.

Jones and Laughlin Steel Corporation

PITTSBURGH, PA.
Booths 649, 651

EXHIBIT: Tubular products and Gilmore Wire Rope Division products.

REPRESENTATIVES: L. M. Parsons, vice president; V. A. Jevon, assistant to vice president; W. H. Wiewel, assistant general sales manager; J. O'H. Anderson, tube division sales manager; A. P. Holloway, tube department; James G. Watson, field representative; H. P. Quinn, field representative; N. R. Putnam, field representative; W. C. Jamieson, field representative; A. H. Quay, metallurgical department; H. L. Summers, chief inspector, tube division; H. N. Keener, development engineer, tube division; H. E. Fisher, superintendent, tube division; A. E. Crockett, manager, bureau of instruction; R. M. Gibbs, advertising manager; F. D. Winslow, Houston district sales manager; W. R. K. Scott, field representative; George E. Tyson, field representative; David Ghent, field representative; James T. Batchelor, Houston office; Baird Tewksbury, Jr., Houston office; C. E. Swindler, Tulsa district sales manager; and Joseph Murray, tube sales department.

Link-Belt Company

CHICAGO, ILLINOIS
Booths 416, 418, 420

EXHIBIT: Link-Belt mud reconditioning screen. Samples of Hyper, Red-Hed and Silverlink oil well drilling drive chains. Anti-friction roller bearings. An illuminated back wall will illustrate typical drive chain and mud screen installations.

REPRESENTATIVES: Fred Wallace and Bob Horton, Houston; E. G. Wendell, George Howson, and Stuart Penick, Dallas; C. W. Spalding and C. R. Weiss, Indianapolis; and H. L. Strube, Philadelphia.

Trinity Portland Cement Company

DALLAS, TEXAS
Booths 1207, 1209

EXHIBIT: Photographs of unusual and outstanding oil well cementing jobs, with charts showing the performance of each type of its oil well cement.

REPRESENTATIVES: Cedric Willson, research engineer; Jack Barnes, petroleum engineer; L. L. Cummings, petroleum engineer; Sven Rordam, director of research, central research laboratories; and H. G. Gillette, Houston district sales manager.

Halliburton Oil Well Cementing Company

DUNCAN, OKLAHOMA
Booths 124, 128, 130, 225, 229, 231

EXHIBIT: Halliburton electrical well logging service. Formation testing service. Co-axial spiral. Complete line of Halliburton floating equipment. Heavy-duty wire line measuring devices. Halliburton oil well cementing service.

NEW PRODUCTS:

Halliburton Automatic Electrical Well Logging—These electric logs are continuous recordings of the potential and impedance between an exploring electrode traversing the bore hole and a fixed reference electrode at the surface, with vertical rules to evaluate the deflections representing the two quantities, and horizontal lines to indicate the depth at which these values were found. All this information is recorded simultaneously photographically. The method combines speed of operation, accuracy and low cost. These advantages are aided through the use of an improved non-twisting cable of small diameter which makes possible the use of a highly accurate measuring system.

REPRESENTATIVES: C. P. Parsons, vice president and general sales manager; F. T. Robidoux, supervisor of well logging department; J. G. Creed, sales engineer; W. R. McClendon, district superintendent of Gulf Coast division; and H. F. Clark, assistant superintendent of Gulf Coast division.

Koppers Company, American Hammered Piston Ring Division

BALTIMORE, MARYLAND
Booths 204, 206, 208

EXHIBIT: Gold Seal piston rings. Surface treated rings. Scraper drain oil control rings. Oil-cutter rings. Various other types of piston rings.

NEW PRODUCTS:

Surface Treated Rings—These piston rings, having chemically treated surfaces, promote rapid seating, thus sealing off hot gases in the combustion chamber and reducing to a minimum the possibilities of blow-by, scoring, or scuffing.

Scraper Drain Oil Ring—This one-piece concentric piston ring has the upper outer edge beveled and a corner groove formed on the lower outer edge, with oil passages extending from the upper corner of the groove to the back of the ring. The ring rides over the oil on the cylinder on the upstroke of the piston and scrapes oil into the groove in the ring on the downstroke. The oil thus collected passes through the oil passages in the ring and through the holes in the piston.

Oilcutter Ring—This ring is of one-piece construction, having a continuous channel around its outside cylindrical surfaces, a series of slots opening inwardly through the ring from the channel, and two narrow bearing surfaces, each terminating in a bevel, one of these being below the channel and the other above. Beveled surfaces permit the ring to ride over the oil film on the cylinders on the up-stroke. The lower corner of each bearing surface forms a wiping edge, which removes excess oil from the cylinder on the down stroke.

REPRESENTATIVES: John A. Worthington, sales manager; E. S. Freeman, Jr., assistant sales manager; J. M. Fuller, sales engineer; W. P. Cunningham, sales engineer; and Bart Aldridge, sales engineer.

Hyatt Bearings Division General Motors Corporation

HARRISON, NEW JERSEY
Booths 704, 706

EXHIBIT: Applications of Hyatt roller bearings in draw-works, rotaries, blocks, pumping units, pumps, engines, etc.

REPRESENTATIVES: H. K. Porter, general sales manager, and H. M. Carroll, advertising manager, Harrison, New Jersey; C. L. Newby, manager, F. H. Webster, sales engineer, A. J. Swisler, sales engineer, and J. L. Haynes, division engineer, Chicago, Illinois; J. M. Kelly, manager, Pittsburgh; and L. S. Nagle, manager, San Francisco.

Petroleum Electric Power Club

HOUSTON, TEXAS
Booths 9, 10, 11

EXHIBIT: Electric motors and associated apparatus.

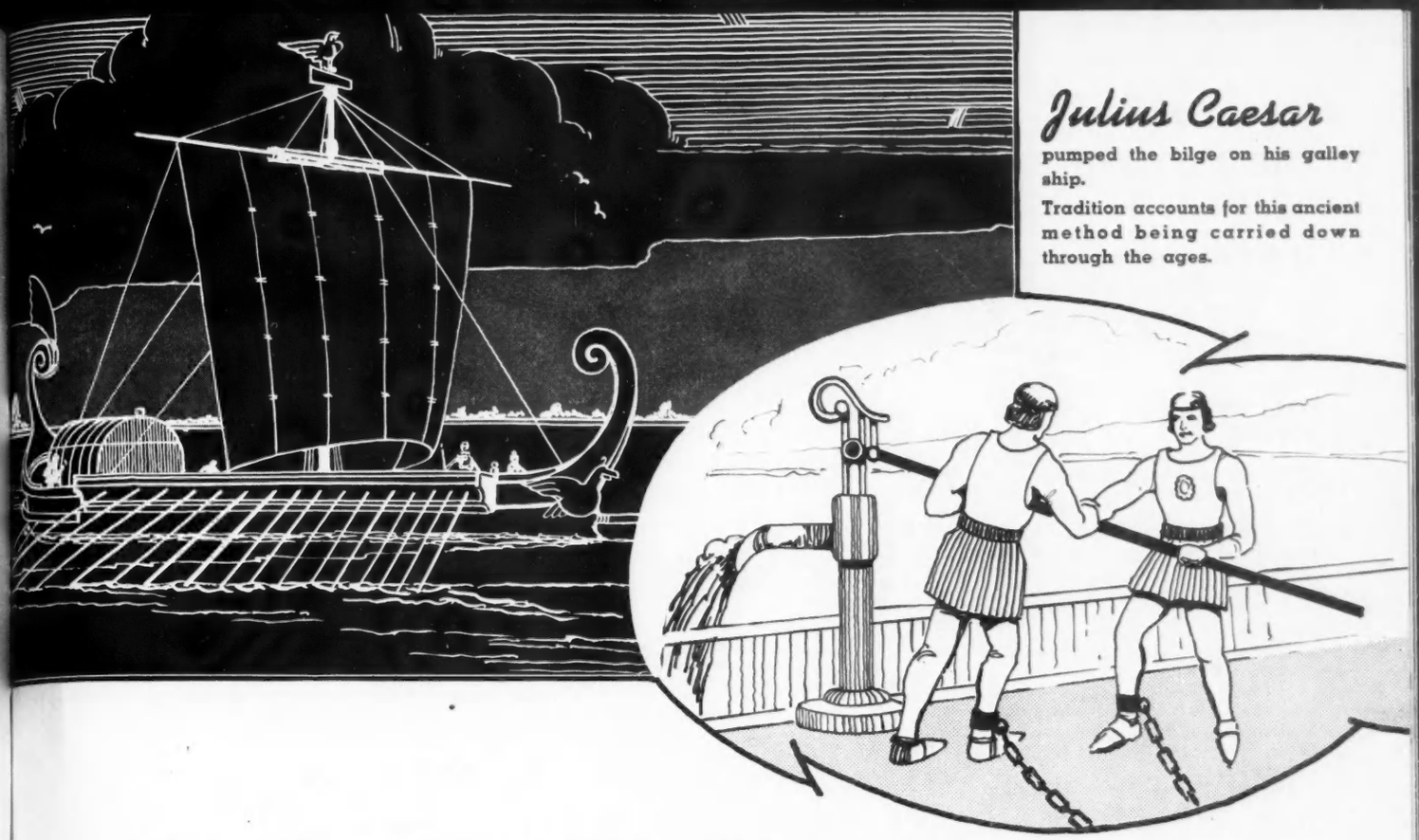
REPRESENTATIVES: F. M. Austin; O. W. Jones; E. L. Robinson; R. E. Hendricks; Walter Moore; and K. K. Kreamer.

Service Pattern and Model Works

HOUSTON, TEXAS
Booth 413

EXHIBIT: Patterns and models used in the manufacture of oil field machinery.

REPRESENTATIVES: H. C. Brinkman, partner; T. W. Russell, partner; and Charles Buck, foreman.

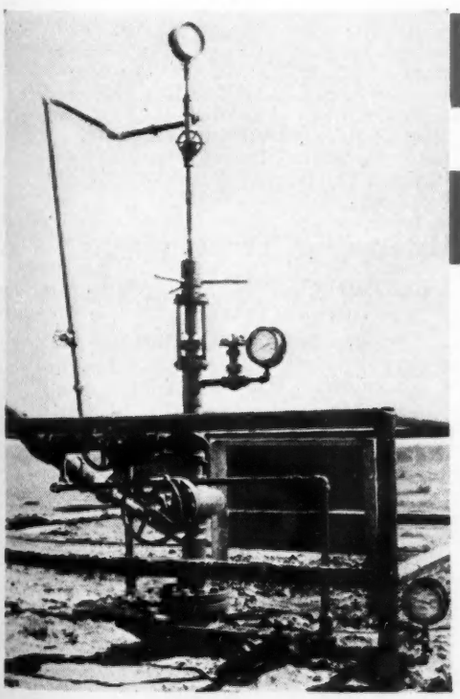


Julius Caesar
pumped the bilge on his galley ship.
Tradition accounts for this ancient method being carried down through the ages.

DON'T BE A SLAVE TO TRADITION . . .

PRODUCE YOUR WELLS THE MODERN WAY WITH THE

ACME GAS LIFT



Another Acme Gas Lift Installation in the Tomball Field. The well is producing 600 barrels per day, 70% water, with an in-put ratio of 150.

PROVEN

ECONOMICAL
EFFICIENT

EASIEST AND CHEAPEST TO INSTALL
RAISES FLUID MORE ECONOMICALLY

OTHER OUTSTANDING ADVANTAGES:

1. Positive flow level selection from Christmas tree.
2. No back pressure against producing formation.
3. Handles large or small fluid requirement.
4. Low gas-oil ratio.
5. Intermitting flow control—for low bottom hole pressures or low allowables.

APPROVED BY BOTH MAJORS AND INDEPENDENTS IN NUMEROUS INSTALLATIONS

ACME

GAS LIFT COMPANY

1423 MAURY STREET HOUSTON, TEXAS

Hydril Company

LOS ANGELES, CALIFORNIA
Booths 653, 655

EXHIBIT: Drill pipe joints. Casing joints. Tubing joints. Blow-out preventer.

NEW PRODUCTS:

Hydril Type "R" Blow-Out Preventer—When in an open position, this blow-out preventer passes all members of the drill string, including the bit, since the packing unit has the same inside diameter as the casing to which the blow-out preventer is attached. At the turn of the control valve, however, the packing unit will contract instantly and effect a secure closure around any member of the drill string, regardless of shape or misalignment. Then, while retaining the well pressure, the pipe may be run to bottom or the kelly raised, and the string rotated while other control measures are taken. Each preventer is shop-tested to 5000 pounds per square inch.

Hydril Spiral Wrap-Welding—This process, for reconditioning upset drill pipe and tool joints, consists of wrapping the worn upset or tool joint with an alloy steel, air-hardening and abrasive resistant spiral strip, in a machine especially designed and developed for this purpose. The strip is then welded to the upset or tool joint in an automatic welding machine, using hard welding rod. The outside diameter is then turned and ground to the specified size. Where shoulders are badly worn, they are built up again to nominal size and re-faced.

REPRESENTATIVES: Bert L. Stone, general manager; Earl M. Daniels, sales manager; Calvin Drake; Claude Bants; W. O. Moore; Morgan Jones, Jr.; J. P. Magoffin; Gordon Bird; C. F. Whaley; C. E. McCarthy; and George Fleming.

George S. Mepham Corporation

EAST ST. LOUIS, ILLINOIS
Booths 415, 417

EXHIBIT: Colox; Jelox; Suspendo; Meptol; Chemical "Z"; Jeleze.

REPRESENTATIVES: L. K. Ayers, president; E. H. Green, sales representative; Tom Bergin, sales representative; E. F. Brownhill, superintendent; J. T. Patterson, engineer; Kemp Lewis, engineer; Wiley Steen, engineer; Fred Poe, engineer; H. E. Emerton; B. L. Jones; and J. A. Coulson, sales manager.

American Bosch Corporation

SPRINGFIELD, MASS.
Booths 105, 107

EXHIBIT: Fuel injection equipment for Diesel engines; magnetos; ignition coils; generators.

NEW PRODUCTS:

American Bosch Heavy-Duty Magneto—This magneto has been designed to meet the severe demands of high compression, large bore engines; also for fuel injection—spark ignition engines using low-grade fuels, as well as engines using natural gas, butane, propane, etc.

REPRESENTATIVES: Carl Behn, vice president; Lee C. Carlton, sales manager, Western division; F. J. Mackey, district manager; and Fred Behrens, sales engineer.

Jenkins Brothers

NEW YORK, NEW YORK
Booths 233, 235

EXHIBIT: Bronze, iron, cast and stainless steel valves.

NEW PRODUCTS:

U-Bolt Gate Valve—This valve features a renewable Bonnet-Saver-Bushing, which makes unnecessary the junking of the bonnet because of more operating threads. The bucking is not

Jenkins U-Bolt Gate Valve

cast integral with the bonnet, allowing a new one to be slipped in. The valve can be opened up and cleaned behind the bushing. Drain channels cast in the bonnet effect drainage for fluids, thus preventing clogging or freezing.

REPRESENTATIVES: H. J. Barnsley, assistant chief engineer; W. Boyce White, sales representative; and F. J. Klemann, sales representative.

American-LaFrance-Foamite Corporation

ELMIRA, NEW YORK
Booths 742, 744

EXHIBIT: Poweron nozzle. Alfite (carbon dioxide) extinguishers. Foamite extinguishers. Foamite generators.

NEW PRODUCTS:

Poweron Nozzle—This water spray nozzle is used on electric equipment up to 250,000 volts. It is also effective on flammable liquid fires, as well as fires in ordinary free burning materials. This nozzle has the triple Underwriters' rating—"A-B-C."

REPRESENTATIVE: D. D. Fitzgerald, district manager.

Westcott and Greis, Inc.

TULSA, OKLAHOMA

American Meter Company

ERIE, PENNSYLVANIA

Davis Regulator Corporation

CHICAGO, ILLINOIS

Robinson Orifice Fitting Company

LOS ANGELES, CALIFORNIA

Reliance Regulator Corporation

ALHAMBRA, CALIFORNIA

Chaplin-Fulton Manufacturing Company

PITTSBURGH, PENNSYLVANIA

Buffalo Meter Company

BUFFALO, NEW YORK
Booths 726, 728

EXHIBIT: Positive displace meters, flow meter, flow and proportional control and remote recording and control products of American Meter Company. Back-pressure regulators, vacuum regulators, liquid controls of Davis Regulator Company. Orifice change fittings of Robinson Orifice Fitting Company. House service regulators and gas reducing regulators of both Reliance Regulator Corporation and Chaplin-Fulton Manufacturing Company. Westcott and Greis, Inc., automatic vacuum breaker valve for oil pipe line work. Water meters, oil and gasoline meters of Buffalo Meter Company.

NEW PRODUCTS:

Carlos Valve—A fully automatic shut-off valve for oil pipe line gravity systems.

REPRESENTATIVES: J. H. Satterwhite, manager, Tulsa; H. W. Wahl, sales engineer, Dallas; C. C. Clover, sales engineer, Tulsa; R. A. Marsh, sales engineer, Houston; B. E. Keeling, sales engineer, Amarillo; C. J. Elmer, sales engineer, Houston; Val Link, Jr., sales engineer, Shreveport; and A. F. Benson, engineer, American Meter Company, Erie, Pa.

Caterpillar Tractor Company

PEORIA, ILLINOIS
Booths 1003, 1004, 1005

EXHIBIT: Diesel and spark-ignition Caterpillar engines; Caterpillar track-type tractors, winches, bulldozers, scrapers and wagons. Water insulated exhaust manifold and radiator. Air-cooled engine. Multiple engine rotary rig control.

NEW PRODUCTS:

Natural Gas Conversion Attachment—Along with Caterpillar's complete line of Diesel engines is featured its new natural gas conversion attachment for the 125-horsepower Diesel engine.

Water Insulated Exhaust Manifold and Radiator—To go with its natural

and More CONVENIENT

The convenience with which information on thousands of different kinds of equipment can be quickly checked is one of the big reasons for the world-wide popularity of The Composite Catalog of Oil Field and Pipe Line Equipment.

The new 1939 Edition is larger, more complete and more convenient than ever before. From cover to cover it is built for fast and convenient usage.

The new Classified Index is a time-saver. It has been greatly simplified—is more adequately cross-indexed—is easier to read—and faster to use because it shows the individual page numbers on which products are described.

The catalog data of over 400 leading manufacturers includes the most recent developments in drilling, production and pipe line equipment. This catalog data—over 2,000 pages of it—has been compiled by the manufacturers themselves. It is authentic and up-to-date buying and specifying information in a compact, convenient form that will help you in comparing and selecting equipment.

You'll find it—quickly—in

THE COMPOSITE CATALOG

gas conversion attachment for Diesel engines, Caterpillar has designed a manifold to take care of the higher exhaust temperatures which result from using natural gas as fuel. The manifold is located well below the header of the radiator to permit plenty of static water pressure. It has been designed, including hand hole covers, so that there is a minimum difficulty in cleaning out lime. The cooling load is said to have been increased, and to handle this, the special, considerably larger radiator has been developed. This has a sectional core, and as a safety measure the fan is completely enclosed.

Eight-Horsepower, Air-Cooled Single-Cylinder Engine—With no water to freeze or boil away, and with an unusually large lubricating oil sump, this new engine can run for longer periods of time without attention, and is especially well suited for oil well pumping. The 800-G engine is offered as a complete unit, equipped with Caterpillar clutch. It is adequately protected by an air cleaner and has a built-in governor.

Multiple-Engine Rotary Rig Control—With this control, all engines can be handled from one position. Purely mechanical, it enables the installation of a series of engines in any relative position with respect to one another. Any part of the control is available to meet requirements or applications of any machine builder.

REPRESENTATIVES: H. H. Howard, engine sales manager; G. E. Spain, manager, sales development division; C. M. Burdette, manager, central sales division; W. K. Cox, assistant manager, sales development division; G. P. Fenn, assistant manager, engine sales division; S. C. Littlepage, engine sales division; and members of the Administrative Department.

Parkersburg Rig and Reel Company

PARKERSBURG, WEST VIRGINIA
Booths 1300, 1303

EXHIBIT: Models of long stroke pumping units.

REPRESENTATIVES: J. M. Crawford, C. A. Ruf, P. L. Brooks, and V. E. Ashford.

Industrial Scientific Supply Company

FORT WORTH, TEXAS

Taylor Instrument Companies

ROCHESTER, NEW YORK
Booth 449

EXHIBIT: Indicating, recording, control, temperature, pressure flow and liquid level instruments. The new Taylor Fulscope Recording Controller will be a feature. Indicating and recording pressure gauges for mud pump service. Self-acting regulators for crude oil treatments. Gold-shield etched stem thermometers for laboratories. Permax hydrometers. Binoc industrial thermometers.

REPRESENTATIVES: A. J. Fleig, R. C. Clarridge, E. H. Triphaus and L. G. Marsh, of Taylor Instrument Company; and B. H. Wilson, R. E. O'Neil and F. W. Wellborn, of Industrial Scientific Supply Company.

Transportation Equipment Company, Inc.

HOUSTON, TEXAS

Marmon-Herrington Company, Inc.

INDIANAPOLIS, INDIANA

Bendix Products Corporation

SOUTH BEND, INDIANA

Timken-Detroit Axle Company

DETROIT, MICHIGAN

Torrance Cleaner Company

TORRANCE, CALIFORNIA

DeLuxe Products Corporation

LA PORTE, INDIANA
Booths 1023-B, 1028-A

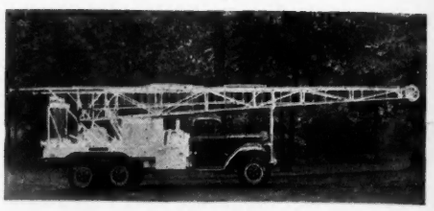
EXHIBIT: Marmon-Herrington all-wheel-drive trucks, station wagons, marsh buggies, geophysical trucks. Timken trailer axles and 6-wheel conversion units. Torrance steam cleaning machines. Bendix B-K power brakes. DeLuxe oil filters.

Marmon - Herrington FF6 - COE - 4 Ford Truck—One of the latest additions to the Marmon-Herrington line of all-wheel-drive Ford trucks. Cab-over-engine model provides greater load space in relation to the 158-inch wheelbase. Power and traction from the 95-horsepower engine is applied to both front and rear wheels. This unit has a rating of 1½ to 3 tons, is equipped with Ford all-wheel hydraulic brakes. Front driving axle, front springs and transmission are of exclusive Marmon-Herrington design.

Marmon - Herrington FF5MBS - 4 Marsh Buggy—Latest model in Marmon-Herrington's line of standard and special all-wheel-drive marsh buggies for traversing swamps, marshlands, deep loose sand, etc. The unit on display is powered with Ford V-8 95-horsepower engine. Chassis is Ford converted to all-wheel-drive. Tires are mammoth 13.50 x 24, single front and dual rears. This model will accommodate as many as dual front, and triple rears, making ten wheels driving. These units will practically float across mud and water.

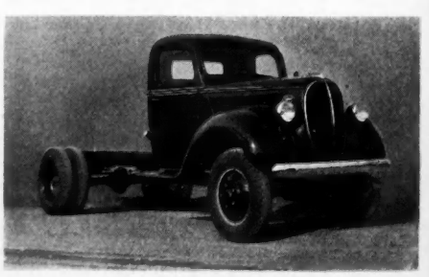
Marmon-Herrington Ford Marsh Buggy

Marmon-Herrington F6-6 All-Wheel-Drive Ford With Drilling Rig—This unit, on display in the space of Sullivan Machinery Company, adjoining the space occupied by Marmon-Herrington Company, has six driving wheels, and is completely equipped for test drilling. The chassis is a standard Ford converted to a "six wheeler" with 180-inch wheelbase and traction on all wheels in the Marmon-Herrington plant. Engine is Ford V-8 85 h.p. This and other units in the Marmon-Herrington All-Wheel-Drive line may be ordered with complete body and apparatus equipment, or as chassis only.



Marmon-Herrington Ford Drilling Rig

Marmon - Herrington FD5-4 All-Wheel-Drive Ford With Diesel Engine An extremely practical and efficient unit for oil field transportation. Combines the sturdiness of Ford chassis construction with the extreme tractive ability of Marmon-Herrington All-Wheel-Drive and the greater safety and torque in the new Hercules Diesel engine. Improved torque, economy of operation, minimized fire hazard, are all emphasized and made more effective by the application of traction on all wheels.



Marmon-Herrington Ford with Hercules Diesel Engine

Marmon - Herrington OT2 - 4 All-Wheel-Drive Ford Geophysical Unit—One of a complete series of Marmon-Herrington All-Wheel-Drive Ford geophysical units for survey and field testing service. Vehicle shown carries special instruments for seismographic exploration mounted on Ford "One-Tonner" chassis converted to All-Wheel-Drive in Marmon-Herrington plant.

Marmon-Herrington C55DR-4 All-Wheel-Drive Heavy Duty Truck—This vehicle with 6 to 7 ton rating and 215-

SUCKER RODS
have improved, too!

Triple heat-treatment makes them stronger, tougher, more dependable

AUTOMOTIVE engineers know the value of triple heat-treatment. By *normalizing, quenching* and *drawing* (tempering), small parts are made to do big jobs. Without heat-treatment you would not have the sturdy, speedy, streamlined cars of today.

It is this same triple heat-treatment that makes it possible for small-diameter sucker rods to pump deep wells. That's why "Oilwell" goes the whole way and gives you *normalizing, quenching* and *drawing*—not only on the ends, but over entire rod length.

Economize on your heavy pumping jobs with "Oilwell" Triple Heat-Treated Sucker Rods. For more information ask for Bulletin No. 128-B.

OIL WELL SUPPLY COMPANY

Branch Stores in All Oil Fields

Subsidiary of United States Steel Corporation

"OILWELL"

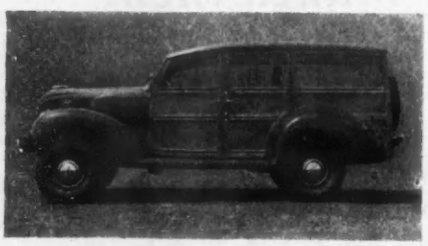
Marmon-Herrington Ford Geophysical Unit

inch wheelbase is one of the larger units in the complete line of heavy-duty All-Wheel-Drive vehicles designed and built exclusively by Marmon-Herrington. Both as straight trucks and as trailer tractors these vehicles with all-

Marmon-Herrington Heavy-Duty Truck

wheels-driving are built in four, six or more wheel models with load capacities up to 25 tons for trucks, and 100 tons or more for tractors. The unit on display has four wheels driving, is powered with a 110 h.p. Hercules engine.

Marmon-Herrington LD3-4 All-Wheel-Drive Station Wagon—This unit, for transportation of personnel and supplies to and from exploration sites and drilling rigs is noted for its ability to traverse the most difficult types of terrain. Light weight and speed are



Marmon-Herrington Station Wagon

coupled with improved maneuverability and effective power, gained with all-wheels-driving. Wheelbase 113½ inches; ½-ton rating; engine, standard Ford V-8 85 h.p.; brakes, "All-Wheel" hydraulic. Front driving axle, front springs and transfer case exclusive Marmon-Herrington design.

REPRESENTATIVES: From Marmon-Herrington Company—A. W. Herrington, president; Bert Dingley, vice president; C. Alfred Campbell, general sales director; Harold L. Fisher, sales and service engineer; Charles Ambrose, sales and service engineer; R. L. Skidmore, sales and service engineer.

From Transportation Equipment Company—J. L. Parker, vice president; T. E. Ferris, office manager; W. J. Voisen, D. L. Vorderman, W. R. Hodge, J. H. Anderson, Carl Sheehan, representatives.

Davis Regulator Corporation

CHICAGO, ILLINOIS
Booths 726, 728

EXHIBIT: No. 330W gas back-pressure valve. No. 331S gas back-pressure valve. No. 335W supersensitive gas relief valve. No. 14B diaphragm motor valve. No. 164D packless float valve. No. 13 regulator. No. 66B packless balanced valve. No. 56 rotary stem balanced valve. No. 75 Y type strainers. No. 76 basket strainers.

NEW PRODUCTS:

Davis Gas Back-Pressure Valves and Supersensitive Gas Relief Valves—These lines have been redesigned. A new spring loaded gas back-pressure valve so designed that it may be changed from a back pressure valve to a vacuum regulator in the field is the latest addition.

REPRESENTATIVES: George C. Davis, president; George J. Hackmesiter, chief engineer; and R. A. Peterson.

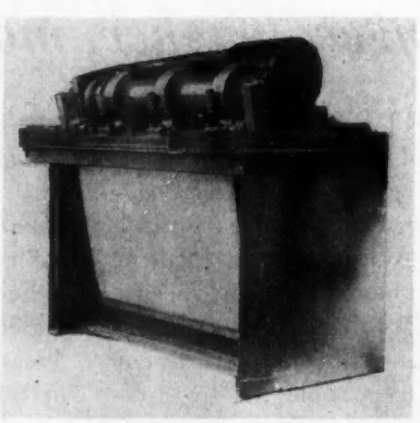
Oceanic Engineering Works

HOUSTON, TEXAS
Booth 1008-A

EXHIBIT: Rumba shale shakers (mud screens). Rumba sand separators for reconditioning mud. "Flolight" generators. "Floair" forge blowers. "Flolight" floodlights. "Flolight" mosquito blowers.

NEW PRODUCTS:

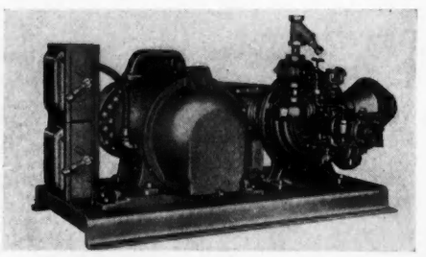
Rumba Sand Separator—This is a new type of vibrating screen for reconditioning drilling mud. It is installed in the flum, or the flow of the mud. The returns first flow into a pit then up against gravity through the screen



Rumba Sand Separator

cloth—that is—finer than is used on the conventional "Rumba" No. 1 shale shaker. As gravity has the first chance to settle the sand and a static pressure can be maintained against the cloth, very fine mesh screens may be used.

"Rumba" Shale Shaker—This new type of vibrating screen for removing shale from drilling mud has the screen cloth underslung with the steel structure that the screen is stretched on above the cloth instead of underneath. This permits the screen to be driven in five places, three of these through the center, resulting in long screen wear, as the cloth is not whipped.



Flolight Belted Type Generators

Another feature is that the vibrating shaft is full rubber floated and the vibrations are imparted to the screen top through the dappening rubber cushions, reducing resonance in the steel frame.

"Flolight" Belted Type Generators—These new generators in capacities of from 5 to 25 KW are driven with V belts. This allows for these generators to be used on power rigs or steam rigs by changing from steam turbine to internal combustion engine.

Another feature of this construction is that service in the field can be made quickly. They are equipped with down draft ventilation so that in dusty fields an air cleaner can be applied over the top of the generator, inspection cover is of one piece so that the commutator is inspected every time the generator is oiled.

REPRESENTATIVES: F. E. Hutchinson, Leon Hart, Jacklin Foster, Eco Hutchinson.

Highway Trailer Company

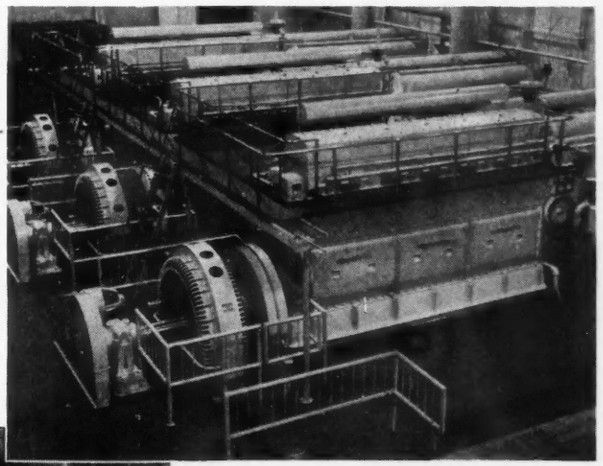
EDGERTON, WISCONSIN
Space 1024-B

EXHIBIT: Complete slim hole drilling outfit.

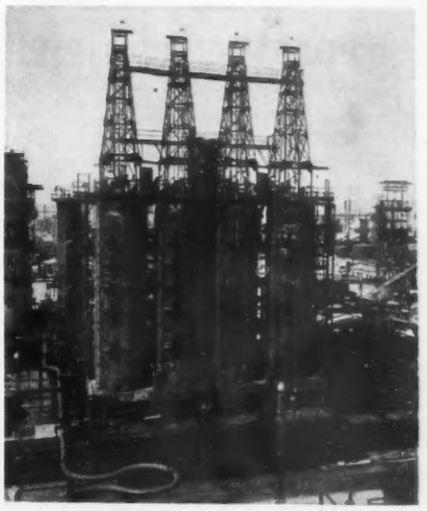
NEW PRODUCTS:

Slim Hole Drilling Machine—This machine incorporates the use of standard commercial semi-trailers, one of which is used for the mounting of the pumping unit and another for installing the entire draw works and rotary with a 55-foot hydraulically raised derrick of 70,000 pounds capacity. A mechanical arrangement entirely new in the oil business is the use of a dolly which can be used to convert the semi-trailer into a four wheeler to facilitate handling along bad roads. This dolly can be converted into a pole trailer when not being used with the semi-trailer. Automotive manufacturing methods were used throughout, with roller bearings on all moving parts. Constant mesh transmissions and Diesel power are features. The entire unit has been kept within the weight and dimensional limits of highway traffic regulations, and handling or loading of any heavy pieces of

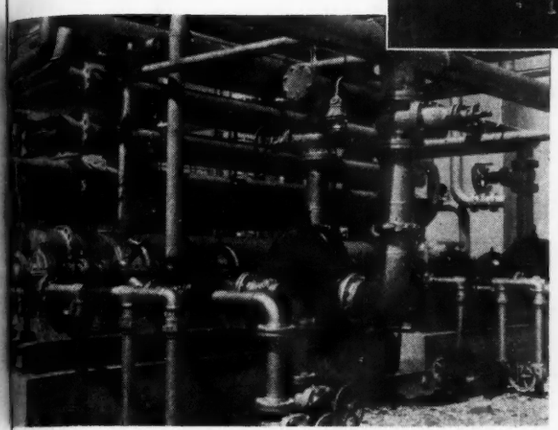
INDUSTRY...



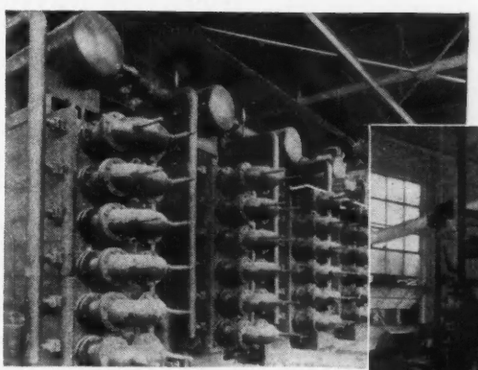
Right—Three of four Worthington Convertible Gas-Diesel Generating Units, in the service of a leading petroleum producer



Complete hydraulic decoking and coke transportation systems for economical removal and transportation of coke from coke chambers in oil refineries

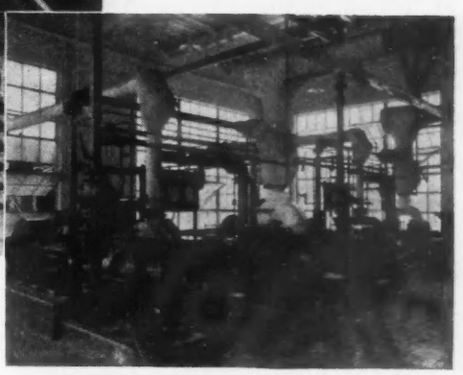


Two Worthington Centrifugal Pumping Units . . . three pumps in line . . . each driven by Moore Turbine operating on natural gas, for rich oil, lean oil and reflux service



Above—Worthington-Carbondale Chilling Machines, for ammonia direct-expansion operation, in a solvent dewaxing plant

Below—Worthington-Carbondale Horizontal 2-stage Ammonia Compressors, motor-driven, dewaxing oil in a refinery



Worthington Equipment provides COMPLETE COVERAGE For every important operation . . . at every important step

The increasing acceptance of Worthington products has been established on the solid basis of consistent performance over a wide range of exacting applications.

There is a Worthington unit to meet every condition exactly . . . without compromise in selection.

Production • Transportation • Refining

WORLD WIDE SERVICE

WORTHINGTON PUMP AND MACHINERY CORPORATION

General Offices: **HARRISON, NEW JERSEY** - *Branch Offices and Representatives in Principal Cities throughout the World*

WORTHINGTON-SIMPSON LTD., LONDON, ENGLAND
WORTHINGTON, S. A., PARIS, FRANCE
DEUTSCHE WORTHINGTON, G. M. B. H., BERLIN AND WIEN, GERMANY
SOCIETA ITALIANA POMPE E COMPRESSORI, MILANO, ITALY

THINGTON

machinery has been almost eliminated by the system of installation.

REPRESENTATIVES: James W. Menhall, president; George E. Menhall, general manager oil well equipment division; H. B. Lindal, director oil well equipment division.

Dodge Manufacturing Corporation

MISHAWAKA, INDIANA
Booths 1501, 1503

EXHIBIT: Dodge Diamond "D" friction clutches. Dodge-Timken bearings. "D-V" drives. Other power transmission appliances.

REPRESENTATIVES: B. L. Myers, W. R. Davis, J. H. Drapier, L. B. Holt, John Coleman, and Leon Pelled.

John Zink Company

TULSA, OKLAHOMA
Booths 1513, 1515-A

EXHIBIT: Vertical Bi-Mix gas burners. Horizontal Bi-Mix gas burners. Multi-Way frame combination burners. Bi-Air refractory gas burners. Semi-mechanical steam atomizing oil burners. Two-way oil burners (either mechanical or steam atomizing type).

NEW PRODUCTS:

Multi-Way Frame Combination Burner—This new burner is built to receive the working parts of the various types of John Zink burners. This added feature is available on John Zink Series Y, Series HBM, Series BMD and Series BMY burners. Sizes range from 14-inch to 30-inch, with capacities from 2,000,000 B.t.u./hr. to 40,000,000 B.t.u./hr.

Two-Way Oil Burner—This burner can be furnished with two heads and can be used as a mechanical atomizing burner or as a semi-mechanical steam atomizing burner by simply changing heads. The mechanical head is a tangential slot whirl type and the steam atomizing head may be drilled to produce type of flame specified. Wall thimbles or air registers of the proper size can be furnished as extra equipment. The oil gun will pass through standard 2-inch pipe and such pipe can be used as a guide or support to hold it in wall thimbles or other types of burner openings.

REPRESENTATIVES: James A. Morgan, John S. Zink, James Arthur Moore, Robert D. Reed.

Fisher Governor Company

MARSHALLTOWN, IOWA
Booths 518, 520, 619, 621

EXHIBIT: Full throttling liquid level controllers. A complete line of diaphragm motor valves. Fisher-King Gas Pressure Booster. A sectionalized cross section of the Philneumatic deep well gas lift pumping unit. Miscellaneous items of pressure and liquid level controllers.

REPRESENTATIVES: P. A. Elfers, K. L. Puffer, and M. N. Dannenbaum.

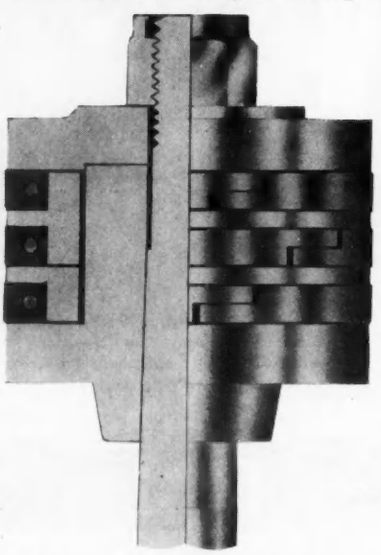
L-K Pump Valve Company

HOUSTON, TEXAS
Booth 1236

EXHIBIT: L-K slush pump valves. Oil pump valves. Salt water pump valves. Cementing pump valves. Boiler feed pump valves. Cage type pump valves. Valve seat wrenches. Inner seal pump valves. Valve seat pullers. Oil pump pistons. Hardened and ground piston rods. Oil pump piston rings, four types. Segmental compressor rings. One-piece compressor rings. Rod packing rings. Oil wiper rings. Ball bearing spinning line swivels, four types. Pressure gauge protectors. Rubber tubing plugs for plugging back. Rubber cementing plugs. Rockwell cup leathers for cementing plugs. Rockwell rubber plug washers for cementing plugs. Bakelite gears. Bakelite gear blanks. Bakelite laminated sheet. Bakelite tubing.

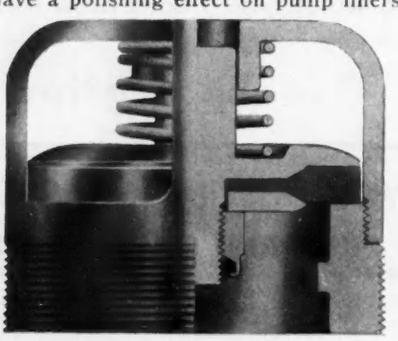
NEW PRODUCTS:

L-K Bakelite Fluid Piston Rings—These rings, used in handling oil, salt water, creosote, chemicals and hot fluids of all kinds, will stand up to 350 degrees



L-K Valve for Pumps with Screw Type Seats (Cage Type)

Fahrenheit and are practically impervious to chemical action. They are furnished either diagonal or step cut, and tool tensioned or with stainless steel spring expanders. They can be used with regular factory pistons or with the L-K grooved type. These rings have a polishing effect on pump liners.



L-K Cage Type Valve

L-K Ball Bearing Spinning Line Swivel, Style 103—This spinning line swivel is so constructed that either the cat head end or spinning line end rotates on ball bearings, independently of the other. It permits a straight line pull from the cat head to the spinning line, or from the cat head to the tong line, depending on which of the two lines is in use. It weighs 2¼ pounds, has three rings, takes up to 1⅛-inch line, is made of alloy steel throughout, and is heat treated. Each one is tested to 7500 pounds and has a breaking strength of 15,000 pounds.

Style 103 Spinning Line Swivel

L-K Ball Bearing Spinning Line Swivel, Style 104—This spinning line swivel is of the same construction as the Style 103 but is larger, heavier and stronger. It weighs 4¼ pounds, takes up to 1½-inch line, is made of alloy steel throughout and is heat treated. It is tested to 7500 pounds and has a breaking strength of 28,000 pounds.

L-K Cage Type Pump Valve—This valve is a self-contained unit, and while all the parts are readily replaceable, it is so designed that the insert and seat are the only points of wear. The insert being softer than the seat takes any wear that might develop and can be reversed when one side is worn, thereby doubling its life. It also prevents slippage, insuring greater pump efficiency. In operation the entire valve lifts, eliminating chance of wear on plate and stem. The insert is made of Bakelite while the other parts are of high quality bronze, or alloy steel.

L-K Piston for Bakelite Rings—This piston is designed for extreme pressures and unusually severe conditions in handling oil, salt water or acids. It is made of high quality nickel cast iron and designed so that each ring has a separate groove to work in. The rings slip on the grooved sections and they in turn slip on the piston body. The grooved sections are held in place by follower and nut. Unless otherwise specified, these pistons are furnished bored to fit the regular factory rod for the pump.

REPRESENTATIVES: Roy J. Loucks, W. G. (Bill) Sanders, Cecil E. Kirk, and Louis H. Kennon.

Gatke Corporation

CHICAGO, ILLINOIS
Booth 700

EXHIBIT: Gatke deep-well woven brake lining. Moulded asbestos brake blocks. Moulded and woven clutch facings. Moulded clutch blocks. Non-me-

Husky BEARINGS

PUMPS
ROTARY TABLES
SCREENS

SHEAVES
SPUDDERS
SWIVELS

TRAVELLING BLOCKS
WINCHES
MOTORS

SKF

BALL AND ROLLER BEARINGS

tallic bearings. Non-metallic gears. Laminated sheet stock. Complete line of asbestos textiles, including yarn, roving, cloths, rod packings, asbestos sheet packings, gaskets, gasket cloth, valve stem and piston rod packings.

REPRESENTATIVES: Thomas L. Gatke, president; J. D. Johnson, Jr., salesman; and Lee Boswell, salesman.

C. B. Delhomme
HOUSTON, TEXAS

Matthews Company
PORT CLINTON, OHIO

Evinrude Motors
MILWAUKEE, WISCONSIN

Gar Wood Industries
MARYSVILLE, MICHIGAN
Booth 1028-B

EXHIBIT: Complete line of Evinrude and Elto outboard motors, 34-foot Matthews cruiser. 20-foot Gar Wood cabin utility boat. Thompson outboard motor boats. Dixie Clinker outboard motor boats. Evinrude high pressure centrifugal pumper. Lwn Boy power mower.

REPRESENTATIVES: C. B. Delhomme, owner; John Winter, sales manager, and Ralph Smith, salesman.

Walworth Company
NEW YORK, NEW YORK
Booths 656, 658, 660, 757, 759, 761

EXHIBIT: Lubricated plug valves for production, refinery and Christmas tree service. Brass and iron valves. Quick opening, motor-operated gate valves, cast steel, for refinery service. Mud line valves. Walworth C.N.I. flanged pipe. Walco pipe wrenches. Walworth Stillson wrenches.

REPRESENTATIVES: W. B. Holton, president; Howard Coonley, chairman; J. M. Olmsted and F. W. Duemler, vice presidents of sales; F. H. Morehead, vice president of engineering; J. D. McManus, assistant chief engineer; C. L. Bradbury, manager Dallas office; W. M. Combs, manager Tulsa office; C. G. Finkle, manager Houston office; E. L. Clark, P. B. Miller, A. J. Porkorny, J. L. Rice, D. L. Rumsey, J. G. Younggren, F. S. Markle, R. J. Glascock and L. F. Lamberty, salesmen; H. C. Nannen, refinery sales; H. G. Lambert, assistant manager tool division.

Tube Turns, Inc.
LOUISVILLE, KENTUCKY
Booth 620

EXHIBIT: Tube Turns line of fittings for pipe welding and forged steel flanges.

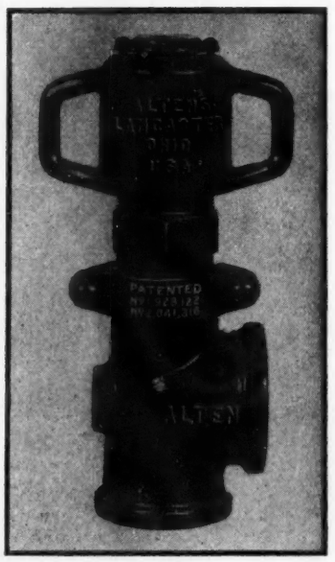
REPRESENTATIVES: R. E. Fritsch, vice president; J. G. Seiler, sales manager; F. S. Schwinn, and W. B. Whenthoff, district managers.

Alten's Foundry and Machine Works
LANCASTER, OHIO
Booth 533

EXHIBIT: Essex lock cocks. Iron body stop cocks. Flexible stuffing boxes. Tong dies.

NEW PRODUCTS:

Flexible Stuffing Box—This stuffing box, equipped with a flexible joint between the stuffing box and pumping tee, gives with every movement of the polished rod, thereby providing adjustment for any misalignment of walking beam



Alten's Flexible Stuffing Box

and also minimizing wear on stuffing box and polish rod. This joint will not leak with movement of stuffing box. A dust-proof reservoir with wiper ring in top provides proper means for lubrication of polished rod and packing. The box can be used with various sizes polished rod by changing upper and lower follower.

REPRESENTATIVE: J. E. Bobo.

Air Reduction Sales Co.
NEW YORK, NEW YORK

Magnolia-Airco Gas Products Company
HOUSTON, TEXAS

Wilson Welder and Metals Company, Inc.
NEW YORK, NEW YORK

National Carbide Corp.
NEW YORK, NEW YORK

Crutcher-Rolfs-Cummings
HOUSTON, TEXAS
Booths 1104, 1106 1108, 1219, 1221, 1223

EXHIBIT: Airco oxygen. Airco acetylene. Welding and cutting apparatus and supplies. Airco No. 6-A Oxygraph. Flame hardening machine. Wilson arc welder. National carbide.

REPRESENTATIVES: From Air Reduction Sales Company, C. D'W. Gibson, vice president in charge of sales; G. Van Alstyne, advertising manager; H. W. Reade, apparatus sales manager; H. L. Rogers, D. F. McCandlish, H. T. Wadley, L. D. Sugg, and V. Forgett.

From Magnolia-Airco Gas Products Company, W. A. Sherman, president; J. F. Pryor, vice president, and L. A. Hamilton, assistant sales manager.

From Wilson Welder and Metals Company, Inc., T. B. Hasler, president, and I. B. Yates, general sales manager.

From National Carbide Corporation, E. C. Ackerman, vice president.

United States Steel Corporation
PITTSBURGH, PENNSYLVANIA

American Steel & Wire Company
CLEVELAND, OHIO

Carnegie-Illinois Steel Corporation
PITTSBURGH, PENNSYLVANIA

Cyclone Fence Company
WAUKEGAN, ILLINOIS

Tennessee Coal, Iron & Railroad Company
BIRMINGHAM, ALABAMA

Universal Atlas Cement Company
WACO, TEXAS
Booths 458, 460, 559, 561

EXHIBIT: Unaflo and Lumnite and other cements. Tiger Brand wire rope. Excellay Preformed wire lines. American electrical wires and cables. Cyclone property protection fence and gates. Roofing and siding sheets. High tensile and alloy steels. Stainless steel for high strength and corrosion resistance.

REPRESENTATIVES: From American Steel and Wire Company—C. F. Wiley, manager wire rope sales; P. T. Coons, H. R. Klein; R. M. Peterson, T. A. Goggin, C. L. Richardson, S. Doan, O. Kroeger, E. T. Eggers, J. V. McGinity, H. Riddle, and D. Carlton.

International Equipment Company
BOSTON, MASSACHUSETTS
Booths 358, 360, 459, 461

EXHIBIT: Model AE explosion-proof, adjustable speed, oil testing centrifuge. Model DE explosion-proof, constant speed, oil testing centrifuge. Model F, 6-volt D.C. oil testing centrifuge.

NEW PRODUCTS:

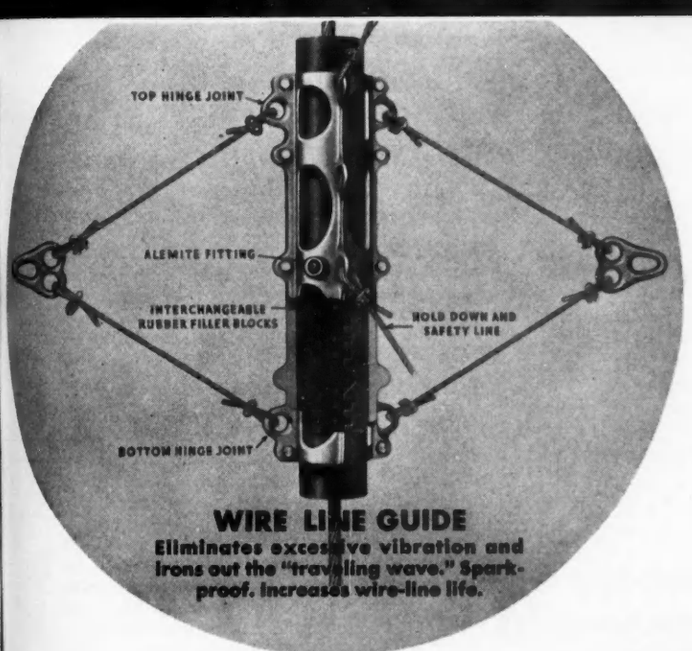
Model AE Oil Testing Centrifuge—This explosion-proof, adjustable speed oil testing centrifuge can obtain any speed between 900 and 1700 r.p.m. The

at the Oil Show

TUBING PROTECTOR
Molded, reinforced plastic Protector fabricated onto the tubing collar.

SUCKER ROD PROTECTOR
A molded fabric Protector which prevents contact between rod couplings and the tubing.

RUBBER PRODUCTS



WIRE LINE GUIDE
Eliminates excessive vibration and irons out the "traveling wave." Spark-proof. Increases wire-line life.

SAFETY MUD GUN
Provides safest and most convenient method of spraying mud. Can be locked in any position. Special rubber nozzle available.

PATTERSON-BALLAGH CORPORATION

Plant and General Offices: 1900 E. 65th St., Los Angeles, California * Mid-Continent Office: 1506 Maury St., Houston, Texas * New York Office: 39 Cortlandt St., New York City

calculated speed for this centrifuge (A.S.T.M. specifications) with the long taper bottom oil tubes is 1310 r.p.m. and with the pear-shaped oil tubes, 1360 r.p.m. With the new adjustable speed motor and controller, these speeds can be obtained, and are indicated by the new Tachometer attached to the cover. The motor is of the explosion-proof type, and the speed controller, together

Model AE Oil Testing Centrifuge

with the starting switch, is mounted in a vapor-proof box secured to the side of the centrifuge.

REPRESENTATIVE: W. H. Curtin & Company.

S. M. Jones Company

TOLEDO, OHIO
Booths 1239, 1241

EXHIBIT: Sucker, pony, pull and polished rods. Sucker rod subs and couplings. Meeks sucker rod wrenches. Kemler well weigher. Murals will be featured showing the Field Engineering Department collecting facts in the field through well studies. Research work in the laboratory is illustrated, through which the use of new steels is developed, and added strength and ductility are given to sucker rod materials. Other murals show how these facts are used to manufacture better sucker rods that fit various pumping conditions. Also pictured will be the subject of product service, showing how facts about care and handling of sucker rods are utilized for better field practices.

S. M. Jones Mural Exhibit

REPRESENTATIVES: P. C. Jones, president; H. K. Browning, sales manager; D. R. Dale, chief engineer; D. O. Johnson, manager, field engineering department; L. J. Pundt, division manager; and C. E. Buchner, district representative.

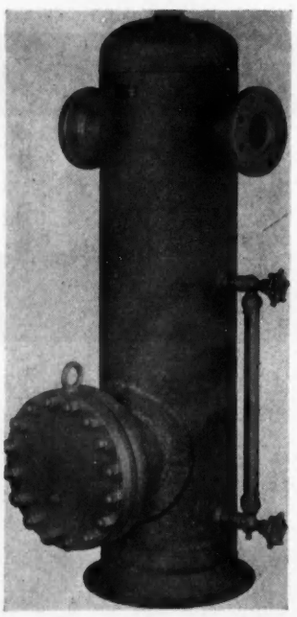
Peerless Manufacturing Company

DALLAS, TEXAS
Booth 1511

EXHIBIT: Peerless mist extractors. Line separators. Gas well separators. Odorizers. Nicholson gasoline traps.

NEW PRODUCTS:

Peerless Gas Well Separator—This separator is particularly designed for high pressure gas wells making distillate or relatively small quantities of oil, with a Peerless Zig-Zag mist extractor to insure dry outlet gas, and a positive, weight-operated liquid valve internally mounted, with stellited valve and seat to insure dependable valve operation.



Peerless Gas Well Separator

REPRESENTATIVE: E. M. Smith, manager.

% Proportioneers, Inc. % and Builders Iron Foundry

PROVIDENCE, RHODE ISLAND
Booths 1142, 1144

EXHIBIT: Venturi tube. Oriflo plate and flanges. Treet-O-Control meter. Flo-Watch with HP transmitter and Treet-O-Unit. Register - Indicator - Recorder. Duplex Adjust-O-Feeder. Midget Adjust-O-Feeder with belt shifter. Laboratory size blender.

NEW PRODUCTS:

Flo-Watch Register-Indicator Recorder—This is a mercury-operated differential type flow meter. New design indicator and case have been incorporated. The Flo-Watch Meter is being displayed controlling the injection of chemicals by means of a plunger type chemical type pump, the feature being that the Adjust-O-Feeder, or chemical feed pump, injects in proportion to the rate of flow through the orifice plate or Venturi tube, which actuates the mercury wells of the Flo-Watch. The connection between the meter and pump is made by a simple two-wire electrical circuit.

Boiler Feed Water Control Panel—This is displayed illustrating the "shot" feeding of boiler treating compound. The differential type of transmitter, operated from a Venturi meter tube is actuating the Adjust-O-Feeder chemical feed pump as well as the remotely located Register-Indicator-Recorder. The Adjust-O-Feeder is operating from an accumulated time interval.

Lubricating Oil Blender—In this booth is a demonstration of a laboratory size blender for lubricating oil blending.

Treet-O-Unit—This meter-controlled device is for acid-treating of lubricating oil, gum inhibiting gasoline, coloring of gasoline, treating of condenser water, and Adjust-O-Feeders for chlorination of repressuring water.

REPRESENTATIVES: R. P. Lowe, vice president and chief engineer of %Proportioneers, Inc.%, industrial sales manager of Builders Iron Foundry and %Proportioneers, Inc.%; W. W. Adams, assistant industrial sales manager, Builders Iron Foundry and %Proportioneers, Inc.%; R. W. Bier, Houston representative; and Garrett Phillips, Houston representative.

The Wm. Powell Company

CINCINNATI, OHIO
Booths 331, 333

EXHIBIT: Complete line of bronze, iron, steel and malleable iron gate, globe, angle, check, manifold and test gate valves, and mechanical lift plug cocks. High pressure and high temperature motor operated valves.

NEW PRODUCTS:

High Temperature Motor Operated Valve—A large steel gate valve designed for motor operation in which the speed of opening and closing is much above that normally used in steam power plant work. The large 12-inch valve is made to open or close in 9 seconds. Of new type designed to compensate for expansion of internal parts. Frequency of operation of such valves is 5 inches 24 hours per day. Primarily designed for polymerization plants operating at extremely high temperatures and minimum pressures.

REPRESENTATIVES: James Coombs, vice president and general manager; E. K. Pierce and William Heilig, district representatives.

YOU ARE CORDIALLY INVITED TO VISIT OUR EXHIBIT

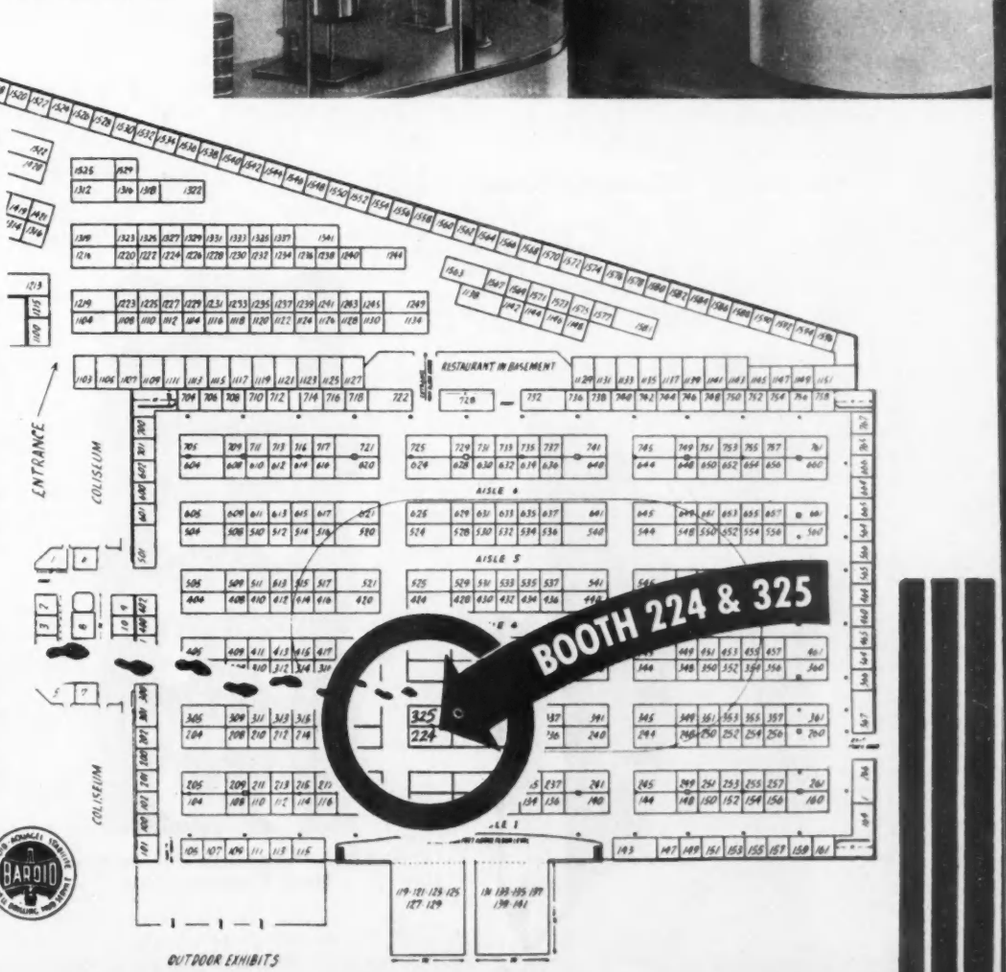
Oil World Exposition

Featuring a complete display of products for mud testing and control. Interesting and Informative. DON'T MISS IT!

See Natural Color Photographs showing the complete story of Baroid Products and service.

Newest developments in Mud Testing Equipment on display.

Specimens showing the results of tests on different types of muds will be shown.



BAROID PRODUCTS

BAROID—Extra-Heavy Drilling Mud. • AQUAGEL—Trouble-Proof Colloidal Drilling Mud. • STABILITE—An Improved Chemical Mud Thinner • BAROCO—An Economical, Salt Water-Resisting Drilling Clay. • FIBROTEX—For Preventing or Regaining Lost Circulaton. • DISPERSO—For Reconditioning Cement Cut Muds. • AQUAGEL for CEMENT—For setting casing and restoring lost circulation. • ZEOGEL—Special Clay To Be Used As A Suspending Agent When Salt or Salt Water Are Encountered. • TESTING EQUIPMENT—For drilling mud analysis and control.

Stocks carried and service engineers available in all active oil fields. Look for this trade mark under "Oil Well Drilling Mud" in your classified telephone directory for our nearest service engineer and distributor.

BAROID SALES DEPARTMENT

NATIONAL PIGMENTS & CHEMICAL DIVISION OF
NATIONAL LEAD COMPANY

BAROID SALES OFFICES • LOS ANGELES • TULSA • HOUSTON

W. L. Walker Company
TULSA, OKLAHOMA

Walter Kidde & Company
BLOOMFIELD, NEW JERSEY

Tulsa Oil Thief Company
TULSA, OKLAHOMA
Booth 1574

EXHIBIT: Tulsa Oil Thief. Safety gauging reel. Car water heater. Electric centrifuge. Hydrometer case. Thermometer case. Gauger's equipment case. Walter Kidde & Company's Lux Carbon Dioxide fire extinguishers.

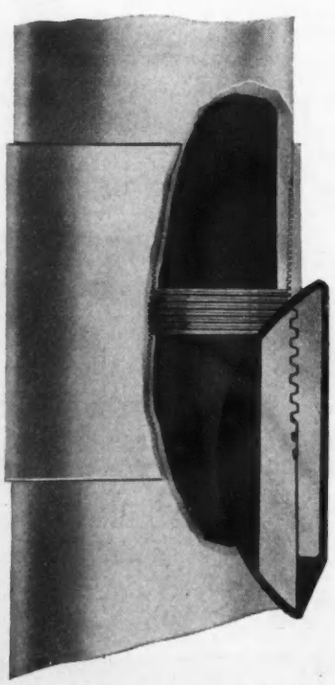
REPRESENTATIVES: W. L. Walker, Clifford Strain, and H. E. Bowman.

Pittsburgh Steel Company
PITTSBURGH, PENNSYLVANIA
Booths 1114, 1116

EXHIBIT: Special Acme-Thread Double-Seal casing. Seamless A. P. I. casing. Special double-grip drill pipe. A. P. I. drill pipe. Special Acme-Thread oil well tubing. A. P. I. oil well tubing. Pittsburgh hydrostatic tension testing. The feature of the company's exhibit will be an operating model hydrostatic test bench displaying the new and exclusive method of testing casing at the mill in tension.

NEW PRODUCTS:

Acme-Thread, Double-Seal Casing—This casing is made with a six-pitch modified Acme-type thread, making the joint quick stabbing and fast running. The accurate design of the threads makes up into a perfect seal, and the design of the threads affords greater joint strength and resistance to pull-out, the manufacturer claims. There is a land area beyond the threaded area on the pipe, and a mating counterbore in the coupling, thus affording added contact in this gripping shoulder which gives support to the last engaged thread and provides an added shoulder seal.



Pittsburgh Acme-Thread Double Seal Casing

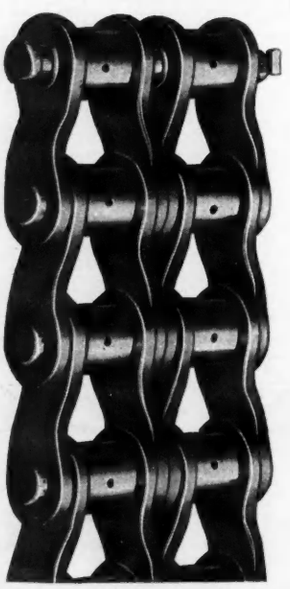
REPRESENTATIVES: A. S. Vandervoort, Jr., Houston sales manager; S. E. Elder, Tulsa sales manager; E. J. Protin, assistant manager tube division; E. T. Wimble, advertising manager; G. W. Novak, W. B. Baylor and John Wais, Jr., field engineers; Paul R. King, and R. G. McIlroy.

Baldwin-Duckworth Chain Corporation
SPRINGFIELD, MASSACHUSETTS
Booths 314, 316

EXHIBIT: Master 1244SS rotary chain. Super service 1030SS, 1240SS oil field chain. Full Flex SS-4 and SS-3 rotary chain. Baldwin D. P. (dual purpose) 3125 and D3125 rotary chain. Machine finished roller chain—single and multiple widths. Accurate cut tooth sprockets. Patented flexible roller chain couplings.

NEW PRODUCTS:

Dual Purpose Rotary Chain—These chains are available in the single strand (No. 3125), 115,000-pound type, and the double strand (No. D3125), 230,000-pound type. They are of 3⅛-inch pitch and hence are not interchangeable with either API-3 or API-4. This pitch, which is shorter than either API standards, accommodates higher drilling speeds, and the double strand offers a very large capacity.



Baldwin-Duckworth Double Strain Dual Purpose Chain

These chains are built especially for oil field use. They are designed chiefly for two purposes: for use on rotary rigs of conventional type, and for use on unitized transmissions, either Diesel or electric driven. They are accurately made and are designed to run over accurate cut tooth sprockets. This combination produces an oil field drive with much longer operating life under severe load and speed conditions, the manufacturer claims.

Baldwin Cut Tooth Sprockets—These sprockets, which are available for the Baldwin D. P. Chain, are cut to the Baldwin improved American standard tooth form, which assures, according to the company, 15 to 50 percent longer chain life before chain elongation causes the chain to jump the sprocket teeth.

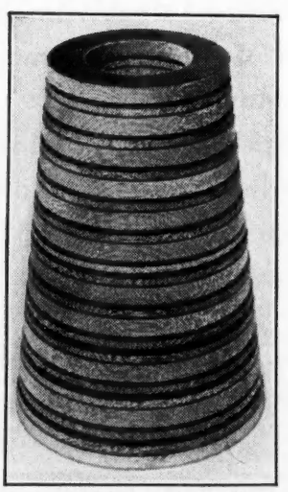
REPRESENTATIVES: F. J. Weschler, general manager; George D. Gilbert, sales manager; Herman Klaucke, chief engineer, Baldwin Division; J. F. McCann, chief engineer, Duckworth Division; A. T. Arnold, advertising manager; George J. Fix, Mid-Continent representative; and George J. Fix, Jr., Kenneth Mills, and J. H. Turner, sales-

Carlyle Rubber Company
NEW YORK, NEW YORK
Booth 1117

EXHIBIT: Formation Tester Cone Packers. Mechanical, industrial and oil field rubber specialties.

NEW PRODUCTS:

Formation Tester Cone Packers—These packers are made in all sizes and tapers for replacements on all makes and types of Rat Hole Formation Testers. They are manufactured with precision tools to insure accurate tapers for positive Rat Hole Seating, and are constructed of vulcanized rubber and fabric discs, finished to a smooth cone shape. Accurate O.D. sizes are maintained to enable fluid displacement as the Tester is being lowered through the main hole to the Rat Hole. A straight center hole (to size required to fit over tester mandrel) is maintained from the top to the bottom of the packer element.



Formation Tester Cone Packer

REPRESENTATIVES: P. M. Kaminsky, president, and A. J. Kaminsky, sales manager.

Kinzbach Tool Company, Inc.

HOUSTON, TEXAS
Booths 355, 357

EXHIBIT: Whipstocks. Milling tools. Ajax drill pipe slips. Ajax tubing slips. Ajax casing slips. Water cooled cathead. Rod guides. Pony rod eliminators. Bowen Overshots. Bowen line wipers. Bowen circulating swivels. Bowen rope sockets. Bowen spears.

NEW PRODUCTS:

Kinzbach Tools for Progressive Milling in Pipe—This series of tools is built around principles of the regular Kinzbach sidetracking equipment and comprises a regular Kinzbach whipstock to which a guide lug is added at the top of the concave section. The starting mill carries a tapered pilot arranged to contact this lug in such a manner that the mill is forced to open the window just above the top of the whipstock within the first few inches of travel. This mill is followed by a regular round-nosed mill. Completion of a full-length window is facilitated by the use of a finishing mill which cuts a short core, holding the tool against the whipstock; the core in turn being milled up by inserted teeth within the bore of the mill. These tools give a full gauge, full length window in the pipe wall.

Kinzbach Type "L" Whipstock—The Kinzbach Type "L" Whipstock is designed for deflecting tools below the casing shoe after cutting out a section of the liner. It provides a positive deflecting guide which does not require the use of a cement plug. The tool comprises a spear arrangement for stabbing into the liner stub, having three independently operated slips which automatically engage the liner as they reach the proper relative positions. The taper section is connected to the anchor through a hinge, which permits the top of the whipstock to lie back against the wall of the hole. Using this tool, it is necessary only to cut and pull enough liner to clear the drilling tools below the casing seat.

Kinzbach-Ajax Unit Type Slips—The Kinzbach-Ajax four-segment unit type slip features a number of advantages. Several sizes of pipe may be handled by changing insert size, while inserts may be reworked or changed at will. Complete servicing may be done on the derrick floor with the ordinary tools available. Ample clearance is provided for the drainback of drilling mud into the hole. The broad segment backs distribute the load in the rotary bushing and insure proper alignment, while the segment design and construction eliminates the distortion under load that causes sticking. The handles are so designed that the operator's hands are clear of the elevators and rotary table at all times.

Kinzbach-Ajax Tubing Slip—The Kinzbach-Ajax Tubing Slip is of four-segment unit type construction. The segments are cored for fluid drainback. Several sizes of tubing may be handled by changing inserts, which can be done on the derrick floor in a few minutes. Maximum flexibility is obtained through four-segment construction. The insert teeth will not cut or mar the pipe, and they contact a sufficient length of pipe to prevent bottlenecking. Handles are designed to keep the operator's hand clear and are provided with a safety latch to hold the slips in engagement.

Kinzbach Sucker Rod Guides—The Kinzbach sucker rod guides are placed in the center of the rod where they can eliminate excessive buckling and are firmly attached by means of U-bolts with a positive grip so that they will not slip after being made up. One guide is recommended per rod and installation can be made in one to two minutes per guide. Ample clearance is provided for fluid passage.

Kinzbach Water-Cooled Cathead—The efficiency in operation, rate of wear on cat lines, spinning lines and the cathead itself is directly proportional to the heat of friction generated and retained in the cathead. The Kinzbach water-cooled cathead provides for circulation of cooling water through the cathead drum, thus keeping a constant normal temperature under all operating conditions and maintaining the maximum operating efficiency while minimizing the wear due to this heat of friction.

Kinzbach Tubing Bowl—The bowl is sidegated with an upper flange wide enough to serve as a shelf for the slips not engaging the pipe, while the lower flange is square to fit the rotary table when tubing is being run with the rotary. Alloy steels properly heat treated and machined are utilized.

REPRESENTATIVES: Frank Kinzbach, president; R. B. Kinzbach, vice president; C. F. Kinzbach, secretary; E. B. Schulz, salesman; J. W. Eichbaum, salesman; E. C. Roper, shop superintendent; V. L. Rayford, chief clerk.

Brown Oil Tools, Inc.

HOUSTON, TEXAS
Booth 1109

EXHIBIT: Canvas, control head and hook wall packers. Liner setting tools. Whipstocks. Cutting tools and spears. Tubing and braden heads. Tubing hangers. Liner cementing tools.

NEW PRODUCTS:

Matlock Whipstock With Safety Setting Tool—The jarring necessary to shear the safety setting tool bolt drives the whipstock into a securely anchored position and imbeds slip and two stellited fins into casing to prevent turning while milling. The whipstock can be set, anchored and locked at any point, in flush joint, welded or threaded and coupled casing. The collar finder is retracted and does not come in contact with casing until ready to set the whipstock. Constructed of special heat-treated alloy steel, this device is especially designed for easy orienting in directional drilling.

REPRESENTATIVES: C. C. Brown, president; A. S. Baylor, chief engineer; R. E. Morwood, manager, cutting tools department; J. W. Hindman, engineer; F. L. Scott, Jr., engineer; F. E. Conway, salesman; and E. L. Bass, sales manager.

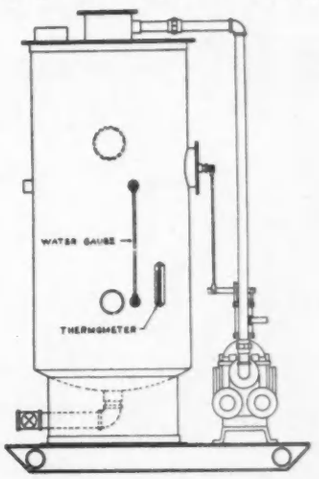
Atlas Engineering Works

HOUSTON, TEXAS
Booths 424, 525

EXHIBIT: Atlas assembled Christmas trees, tubing and braden heads. Forged steel high-pressure fittings. Adjustable and positive chokes. Automatic shut-off valves. Unions. Boiler feed water heater.

NEW PRODUCTS:

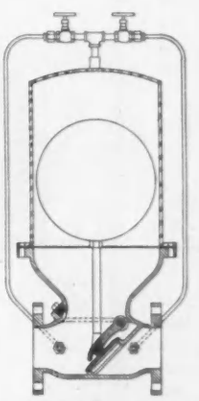
Boiler Feed Water Heater—This heater employs exhaust steam from the drilling engine or boiler feed pumps as a heating medium. A filtering process is provided for removal of all foreign



Atlas Boiler Feed Water Heater

matter from the heated water before it enters the boilers. An auxiliary pump is provided by means of which a constant supply of pre-heated water is available in sufficient quantity to supply three 150-horsepower boilers without interruption. The heater is small enough to be portable easily.

Atlas Automatic Shut-Off Valve—This device provides a means of eliminating air locks in gravity feed tank battery systems. The valve is designed so that it will function as a positive shut-off without fluttering when a low level of fluid is reached in the tanks.



Atlas Automatic Shut-off Valve

This level is capable of being left at the same height at all times through use of the valve. The assembly is

MORE THAN 20,000 SUCCESSFULLY GUN PERFORATED BY LANE-WELLS SAFE, ACCURATE

Gun Perforating 20,000 wells for more than 2,000 different oil companies has provided the Lane-Wells organization with a vast fund of practical knowledge and experience in almost every producing field in the United States. It has also been a great test of men, equipment and operating methods.

Today operators order Lane-Wells Gun Perforating Service with a confidence based on successful experience. They know the equipment is safe, accurate, powerful, and is operated by carefully trained field crews. They know the value of fast, efficient service that saves them "down time costs."

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Bakersfield 3773
Long Beach 629-33
Los Angeles . . . . . JE. 7211
Santa Barbara 241-76

Illinois
Salem 861

Kansas
Hutchinson 4606

Louisiana
Houma 1167
Lake Charles 1878
New Iberia 1123
Shreveport 2-1545

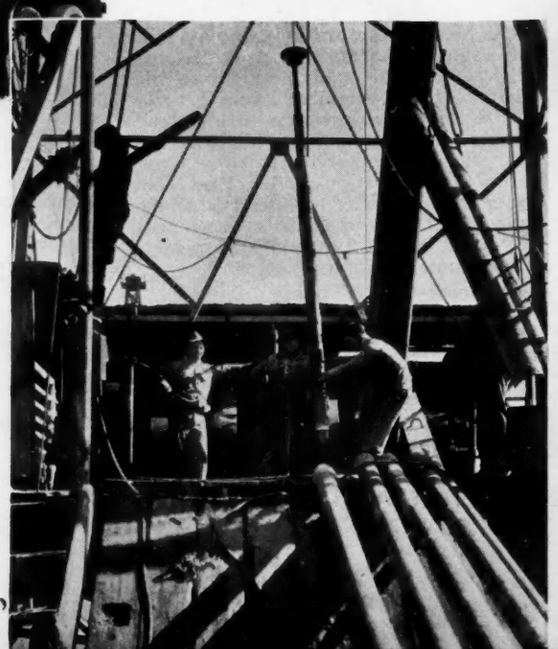
New York
New York . . . . MO. 4-4957

Oklahoma
Oklahoma City 2-3188—L.D. 632
Seminole 336
Tulsa 4-2189

Texas
Alice 646
Beaumont 2242
Corpus Christi . 4144; L.D. 9
Longview 1933
McAllen 956
Odessa 253
Refugio 496
Wichita Falls 2-1570
Houston Woodcrest 6-1701—L.D. 224
Victoria 871

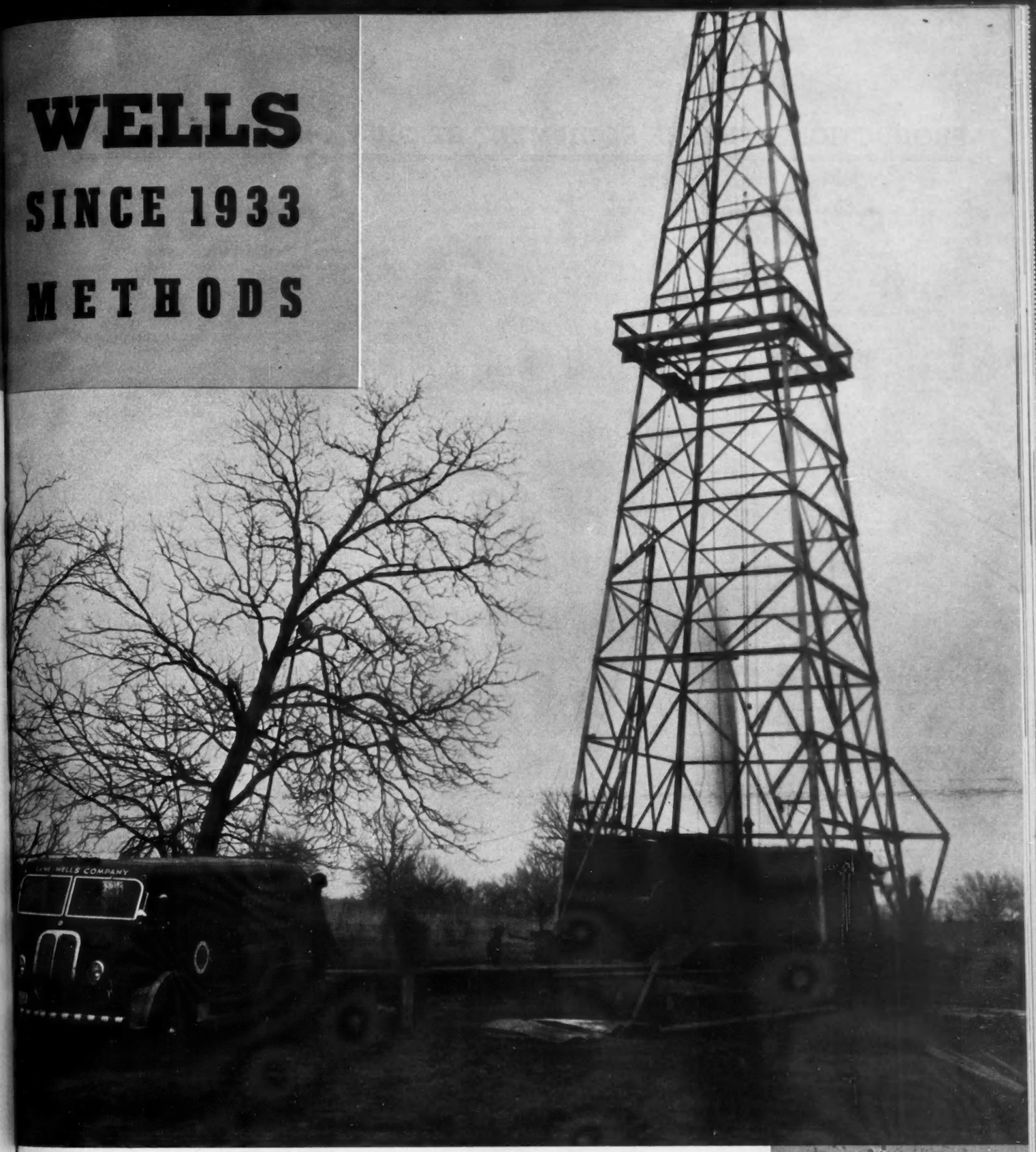
Wyoming
Casper 603

Lane-Wells Gun Perforator Trucks are a familiar sight in every oil field in the United States. Each truck is equipped with 12,000 to 15,000 feet of steel-shrouded cable, five sizes of guns, accurate measuring devices and multiple safety control.



Gun Perforating against as much as 2500 lbs. per sq. in. pressure is a job Lane-Wells does with absolute safety. The 20-shot gun has just come out of the Pressure Packing Gland after a successful run in a Texas high-pressure well.

WELLS SINCE 1933 METHODS



The completion program of this Hazel Pool well in the south part of the Greater Seminole Pool called for Gun Perforating blank liner in the productive zone. The well came in flowing 600 barrels per day.

LANE WELLS COMPANY

TECHNICAL OILFIELD SERVICES

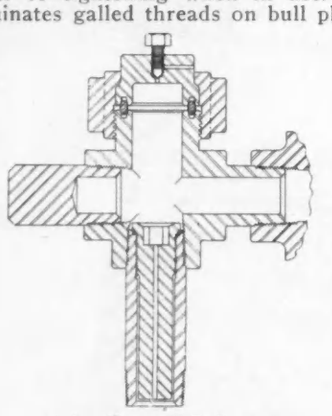
LOS ANGELES • HOUSTON • OKLAHOMA CITY • NEW YORK

LANE-WELLS SERVICES

LANE-WELLS SERVICES AND PRODUCTS INCLUDE: GUN PERFORATORS • ELECTROLOG • OIL WELL SURVEYS • DIRECTIONAL DRILLING • PACKERS • LINER HANGERS • BRIDGING PLUGS • SINGLE SHOT SURVEY INSTRUMENTS • KNUCKLE JOINTS • WHIPSTOCKS AND MILLS

equipped with a device for manual operation, should an emergency arise, so that complete drainage can be accomplished without removing the valve from the line.

Atlas Type C-7 Cross—This cross, manufactured from forged steel, is machined with an Acme thread for ease of removal of the sealing cap. Outer edge of the cap is furnished with lugs for use of a spanner wrench for removal or tightening when in use. It eliminates galled threads on bull plugs



Atlas Type C-7 Cross

or crosses. A bronze seal ring is fitted to corresponding grooves in this fitting, which accomplishes a seal with a minimum of tightening. A bleeder plug is included for relief of pressure before removal of the cap.

REPRESENTATIVES: Ernest L. Barker, owner and manager; J. R. Barrett, salesman; Jack Garrison, salesman; G. F. Dunning, salesman; Mike Hopper, salesman; W. V. Currie, shop superintendent; and C. P. Gillespie, salesman.

Aldrich Pump Company

ALLENTOWN, PA.
Booth 1339

EXHIBIT: 3-inch x 6-inch Aldrich vertical Triplex repressuring pump. 2½-inch x 3¾-inch Aldrich-Eroff Powr-Savr Controllable Capacity vertical Triplex pump. Aldrich patented porcelain pump plunger.

REPRESENTATIVES: L. T. Borneman, general sales manager, and Col. J. A. Rossiter, district representative.

H. E. Bowman Company

HOUSTON, TEXAS
Booth 2

EXHIBIT: Tank wagon and bulk plant oil equipment. Chemical and carbon dioxide fire extinguishers. Service station equipment.

NEW PRODUCTS:

Hose Coupling—According to the manufacturer, this quick hose coupling of high grade bronze is designed to eliminate restrictions of flow, with special machine finished locking parts which permit ordinary hand coupling and assure a leak-proof joint under high pressure. A teeth interlocking feature of both swivel and adapters (either male or female) prevents coupling from parting in case of twisting of hose in any direction. It has no exposed lugs to interfere with operation.

Foot Valve Extractor—This device for removing a foot valve from an underground storage tank has no wearing parts which would need replacing underground. A guide rib set automatically guides the yoke to its position, thereby eliminating the necessity of so-called "fishing" for proper position. Settling of the tank causes no strain on the pipe connections.

REPRESENTATIVES: H. E. Bowman, owner and manager; Earl Bowman, sales engineer; George Paton, service manager, and Ray Chaney, warehouse manager.

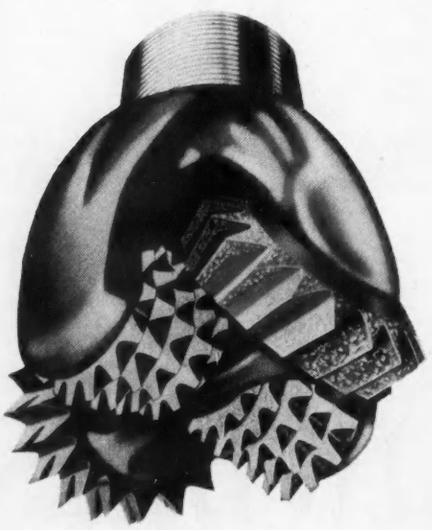
Reed Roller Bit Company

HOUSTON, TEXAS
Booth 1007, Outside

EXHIBIT: DK rock bits. BR wire line coring-drilling outfits. Replaceable blade fishtail bits. WIB (welded-in) blade drilling bits. Piloted hole opening bit. Single and double three-point reamers. Tool joints. Kor-King core drill for hard and soft formations. SIH wire line coring-drilling outfits. Non-lubricated plug valves. Drill collars. Air-balanced pumping units. Rotary engines.

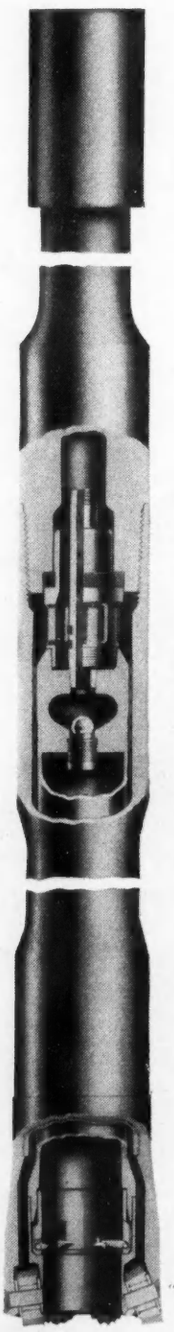
NEW PRODUCTS:

Roller Bits—Three standard types of DK rock bits have been developed, the DK 1, DK 2 and DK 3, each with various cutter assemblies found to drill certain formations most efficiently. These assemblies are balanced for smooth running and straight drilling. The balanced cross-roller design of Reed DK rock bits, are said by the manufacturer, to cause the cutter teeth to twist and tear the formation as they penetrate, permitting lighter drilling weights and faster rotary speeds. The unitized construction gives a large factor of safety, especially when using heavier weights for drilling harder formations; and improvements in slush tube design assure positive circulation on the cutter teeth and on the bottom of the hole.



Reed Rock Bit

Two recent additions to the line are the DK 1T and the DK 1L. The DK 1T has been especially designed for the long 100% shale breaks that might be termed semi-fishtail digging. This bit has exceptionally long, widely spaced teeth that are designed to prevent balling or gumming up, even in the very sticky formations. The DK 1L has been designed for harder limes that are not extremely abrasive, and is recommended for broken formations that contain an equal amount of shale and lime.



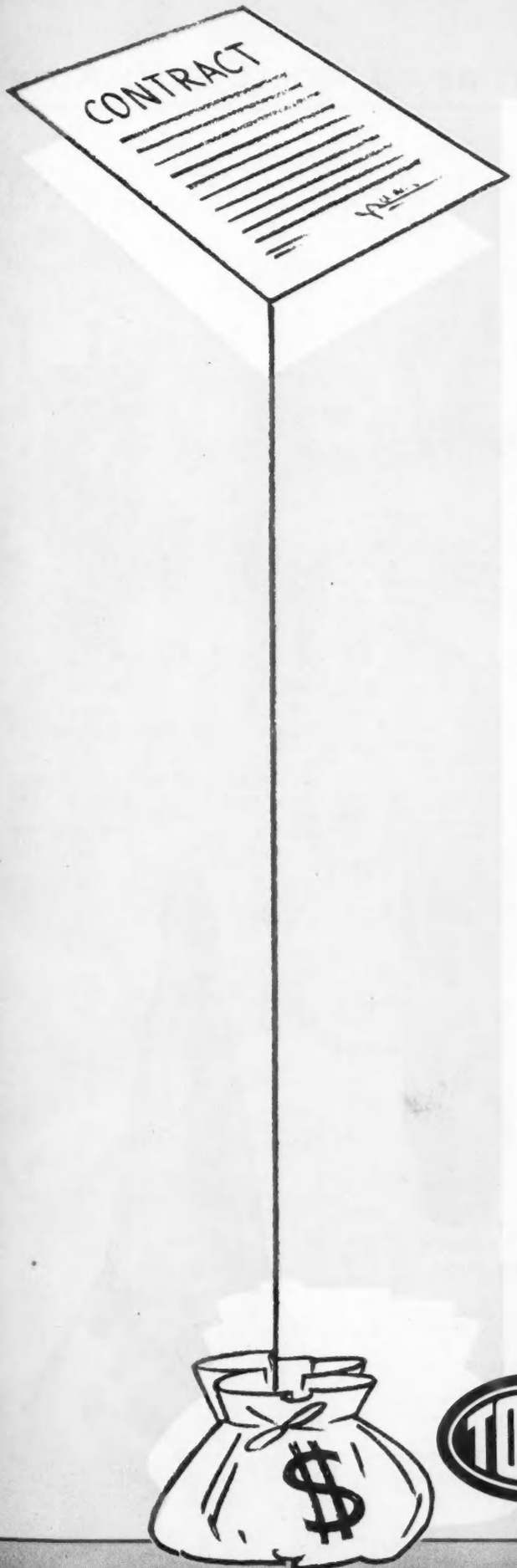
Kor-King Core Drill

Reed Tool Joints—A comparatively recent addition to Reed's line of tool joints is the double streamline tool joint. It has been designed for pressure drilling and drilling with controlled circulation and for slim hole exploration. Reed double streamline tool joints have a very small increase in diameter over the pipe, and a larger diameter pipe can be used with the same hole clearance at the joint, which gives more fluid capacity down the drilling string, and more velocity in returns.

Reed Reamers—Several improvements in design and construction have been made in these rotary reamers. The improved spiral reamer cutters are said to provide extra life and efficiency of performance.

Kor-King Core Drill—The Kor-King core drill has been improved to give greater certainty of core recovery and increased percentage recovery of longer, larger diameter cores. Improvements have been made in the combination spring and toggle type core catcher, the new pilot type soft formation cutter head, and in the non-rotating inner barrel which operates against oil-proof, slush lubricated rubber bearings and eliminates bearing adjustments and frequent replacements. The inner barrel also is plated against rust, allowing free entry and extraction of the core.

Reed Non-Lubricated Plug Valve—The Reed non-lubricated plug valve



THE SHORTEST WAY IS A **STRAIGHT HOLE...**

The profit margin in oil well drilling is shrinking. You've got to drill them faster, cheaper, easier to come out on the deal. That means every well has to be VERTICAL, because vertical holes can't cause the grief, wasted time, and equipment wear that crooked ones do. And there is only one quick, sure, low-cost way for the driller to KNOW how the hole is going — that's consistent checking with the . . .

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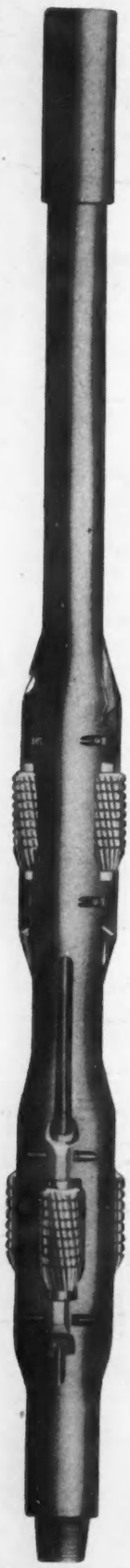
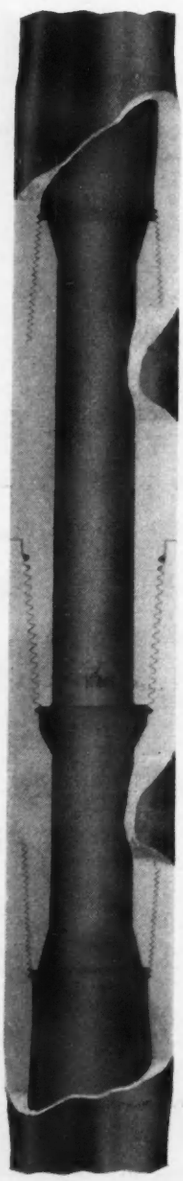


Reed Heavy Duty 6 contact Reamer Type 38

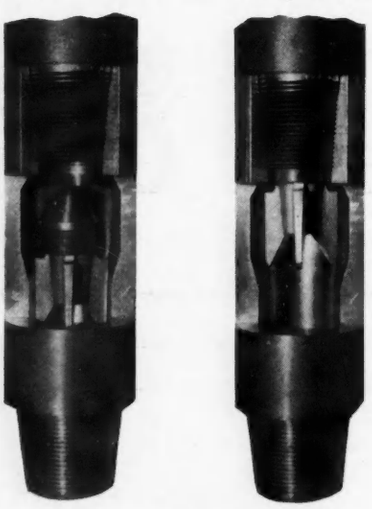


Reed Double Streamline Tool Joint

Reed Non-Lubricated Plug Valve

has been continually improved since its introduction and a Neoprene-lined mud valve added to the line. This valve will freely turn and fully seal under all conditions without the need of lubrication of any kind.

The Reed Back Pressure Valve—The Reed back pressure valve consists of two pieces: a special sub manufactured to the same rigid specifications as are Reed tool joints, and a regular dart carrying a packing ring. The valve sub is placed between the pin and box of any tool joint, and the pin end of the tool joint forms the seating member

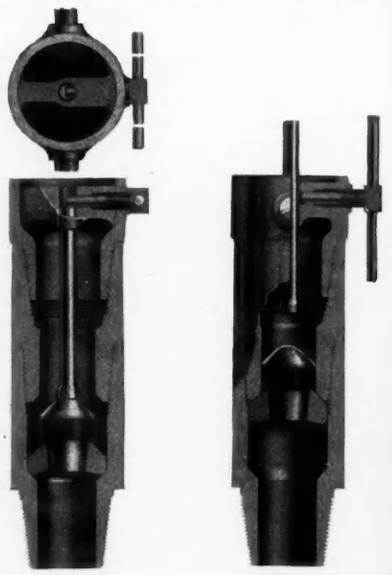


(Open) (Closed)
Reed Back-Pressure Valve

for the dart. The regular dart requires the reverse movement of a viscous fluid to seal. When the Reed back pressure valve is required to seal against a drilling fluid of low viscosity, a spring dart is provided which will close mechanically in the tool joint pin in which the valve is screwed.

Reed Inside Blowout Preventer—While pulling drill pipe, the first warning of an impending blowout often is when a stand is broken out and the drilling fluid is found to be rising with the pipe. With a Reed inside blowout preventer conveniently at hand on the derrick floor, this condition can be handled easily.

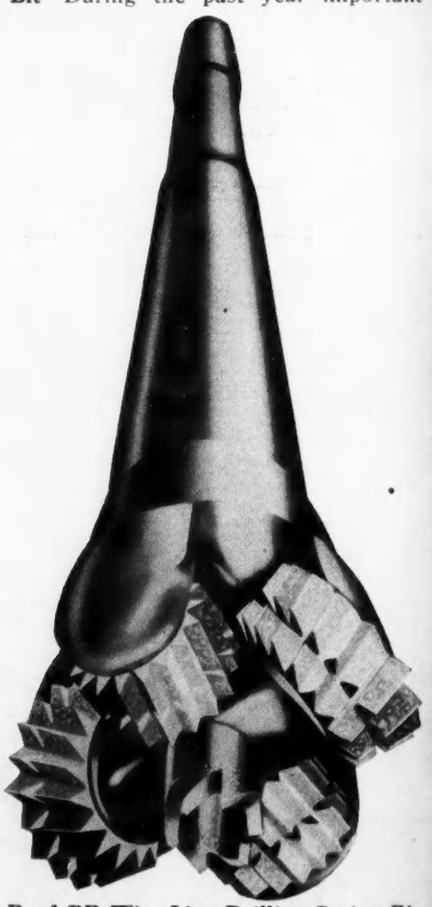
The preventer can be quickly placed in the broken connection while the outside blowout preventer is being closed. The stand already hanging from the elevators can then be made up and



(Open) (Closed)
Reed Inside Blowout Preventer

the drill pipe run back into the hole to establish circulation below the point of trouble.

Reed BR Wire Line Drilling-Coring Bit—During the past year important



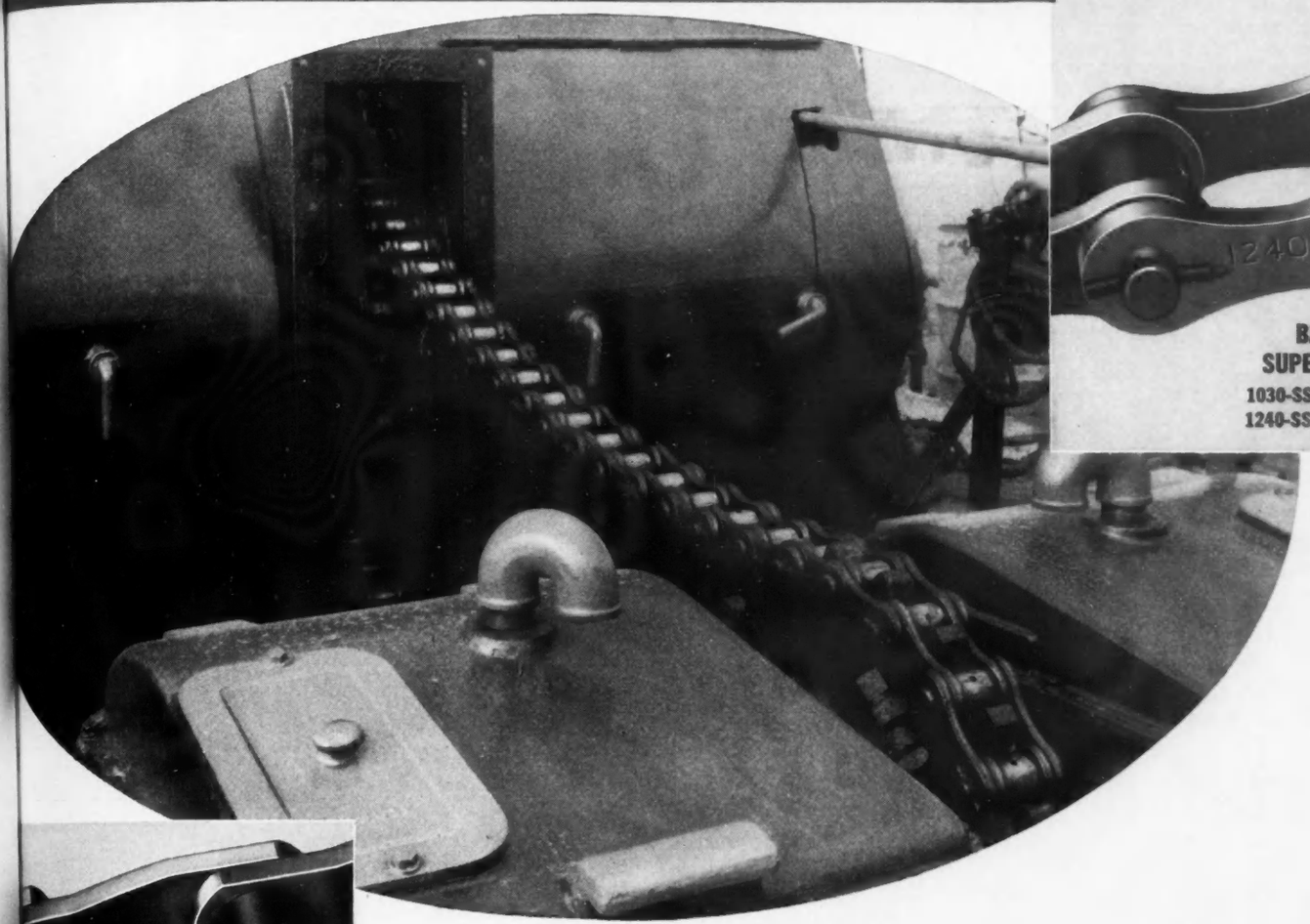
Reed BR Wire Line Drilling-Coring Bit

BALDWIN

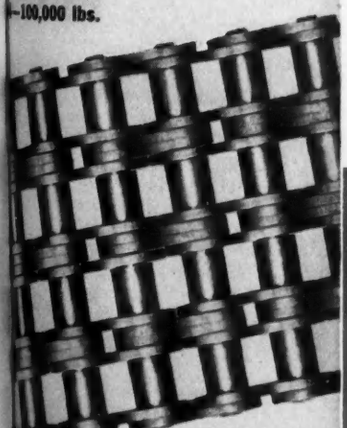
...sk the Driller .. He Knows

BALDWIN MASTER
1244-SS—185,000 lbs.

BALDWIN SUPER SERVICE
1030-SS— 66,000 lbs.
1240-SS—140,000 lbs.



WIN FULL FLEX
– 43,000 lbs.
–100,000 lbs.



N MULTIPLE ROLLER CHAINS
DRIVES UP TO 500 H. P.

● Every year more drillers depend on Baldwin Roller Chain for every type of oil field work. 3 types of Baldwin Rotary Chain provide a "first choice" for any type and any depth of well. Single and multiple strand roller chain provides the most positive and efficient drive for pumps, rigs, primary drives and the like.

You'll always be safe if you choose Baldwin.

BALDWIN-DUCKWORTH CHAIN CORPORATION
SPRINGFIELD, MASSACHUSETTS
Factories at WORCESTER and SPRINGFIELD, MASS.
Factory Representative: Geo. J. Fix, Dallas, Texas

FOR SALE IN ALL OIL FIELDS

Chain Transmits ALL *the* POWER

changes have been made in the Reed BR wire line outfit, whereby greater safety, longer life and economy in operation have been increased. The new driver has larger slush openings for increased fluid volume to meet the requirements of the larger pumps and higher steam pressures in use today. The cutter heads have been improved to reduce the burning of cores and give increased footage. New core catchers have greatly improved recovery in all formations and a new core barrel lifting ring and release plate has been designed for greater ease of handling and an added factor of safety.

REPRESENTATIVES: S. P. Farish, president; W. L. Childs, vice president; R. G. Hamaker, vice president and sales manager; V. J. Pennington, works manager; G. G. Harrington, chief engineer; F. C. Gignoux, research; Howard Book, division manager; W. J. Nutto, foreign representative; W. J. Anderson, branch manager; Alex Feild, pumping unit division; T. J. Stancliff, assistant chief engineer; C. J. Fontaine, manager general sales office.

Kobe, Inc.

LOS ANGELES, CALIF.
Booths 1418, 1420

EXHIBIT: Kobe Hydraulic All-Purpose Fluid-Operated Oil Well Pumping Unit and its component parts. Kobe Heat-Treated Screen Casing.

NEW PRODUCTS:

Kobe Hydraulic All-Purpose Fluid-Operated Oil Well Pump—A Kobe pumping unit consists of two main subdivisions (1) the surface or hydraulic power unit; and (2) the subsurface or production unit. The only additional material required to completely equip a well is the pressure tubing and well tubing.

The power unit consists of a prime mover of any desired type, a triplex pump and filter system. The production unit consists of a hydraulic engine and production pump combined in a single unit with the pump attached to the lower end of the engine.

Power is transmitted from the hydraulic power unit (surface) to the production unit (subsurface) by means of a circulating column of clean oil confined within a string of small diameter tubing which connects with the power end (engine) of the production unit. Constant pressure applied to this column of oil at the surface causes the subsurface engine piston to reciprocate and thereby operate the direct connected double acting pump.

REPRESENTATIVES: C. J. Coberly, C. M. Rader, R. G. Ralph, B. M. Moroney, and M. L. Walraven, Jr.

Oil City Brass Works

BEAUMONT, TEXAS
Booths 1236, 1238

EXHIBIT: Bronzoid bearings. Red-Rex pipe unions. Steel forgings.

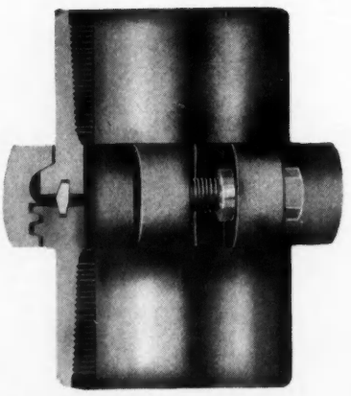
NEW PRODUCTS:

Red-Rex Malleable Pipe Union—This new line of malleable Red-Rex one-bolt

Short Hub Malleable Union
500 lb. WP/1000 lb. Test

pipe unions has been developed since the first of this year. These unions are displayed in both "short hub" and "long hub" types. These unions are unique in their field in that construction is identical with that of higher pressure Red-Rex steel unions. Seal rings are of the same double-tapered, positive sealing type, and in fact are interchangeable on Red-Rex Unions for all pressures. These unions are recommended for 500 pounds working pressure, and are tested to 1000 pounds.

Red-Rex Medium Pressure Steel Union—The new Red-Rex steel union, designed for 1000 pounds working pres-



Medium Pressure Steel Union
1000 lb. WP/3000 lb. Test

sure, and tested to 3000 pounds. Parts are interchangeable throughout with those of malleable unions described above. Construction is identical with that of the concern's 3000 pounds working pressure-6000 pounds test steel union. Seal rings are interchangeable throughout. Hubs are of steel to facilitate welding to pipe where this procedure is desirable.

REPRESENTATIVES: George E. Bryant, Jr., vice president; Brooke Todd, superintendent; L. H. Kennon, Houston manager; R. H. Ratliff, R. J. Loucks, and W. G. Sanders.

Gulf Engineers, Inc.

HOUSTON, TEXAS

Chiksan Oil Tool Company

FULLERTON, CALIF.

Lamb Piston Company

WILMINGTON, CALIF.

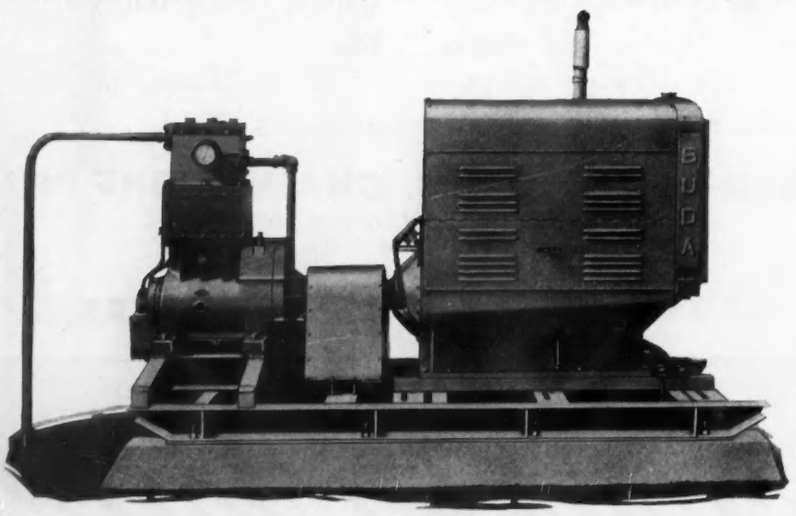
Abegg & Reinhold Company

LOS ANGELES, CALIF.
Booths 324, 326, 425, 427

EXHIBIT: Keil shale shakers. "Varco" slush pump liners, pipe slips, kelly bushings and master bushings. Chiksan steel rotary drilling hose and swing joints. Lamb solid rubber slush pump pistons.

NEW PRODUCTS:

Varco Kelly Bushing—This new kelly bushing is made for square and octagon kellys. The main body is a solid one-piece steel casting carefully heat treated, capable of housing inserts for both square and octagon kellys from 2½ to 6 inches. For a larger kelly a larger main body is required. The inserts are alloy steel forgings of even hardness, which prevents galling. It is important in a kelly bushing that the

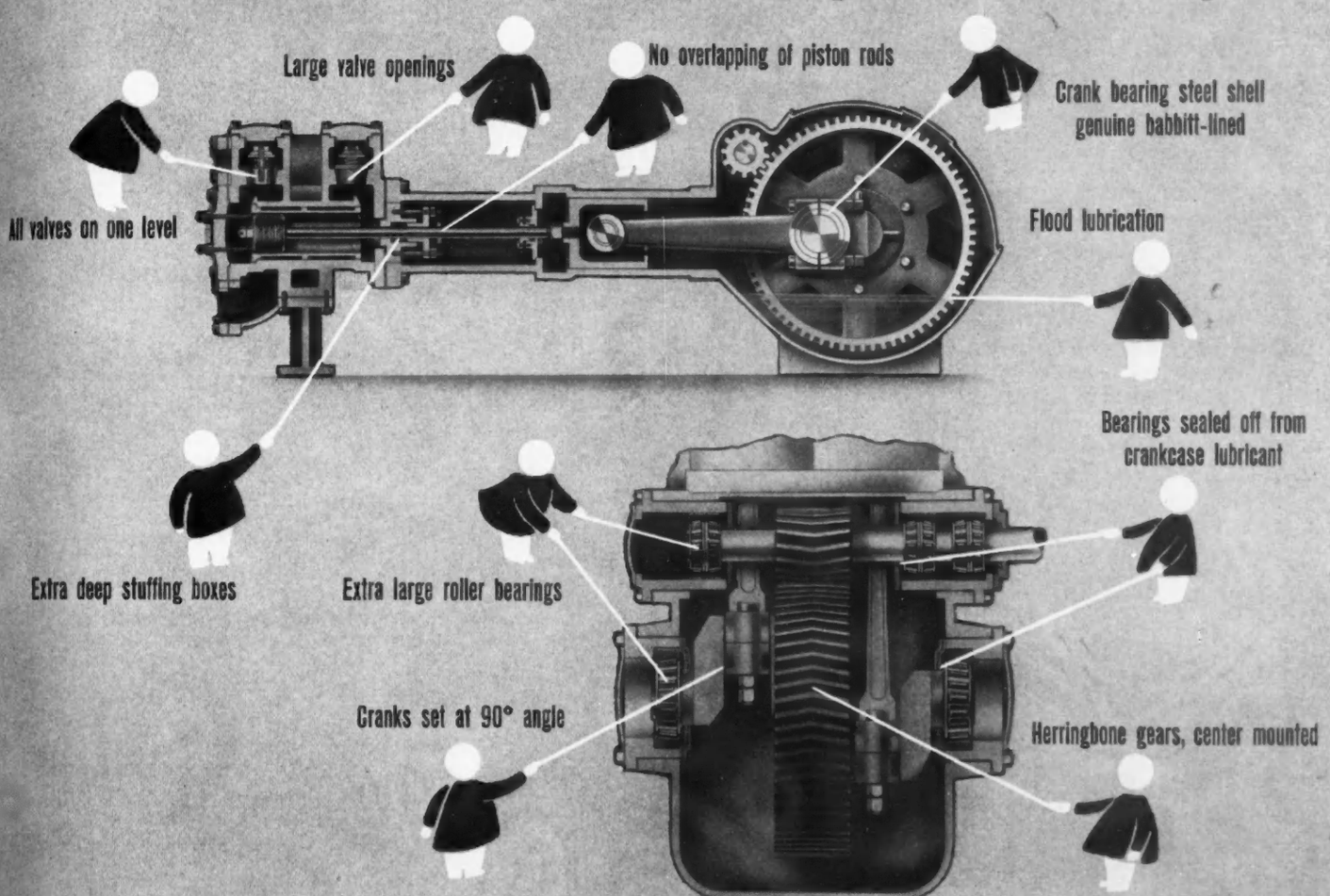


Kobe Hydraulic Power Unit, with Direct Connected Gas Engine Drive

Quiz?

QUESTION: What is the reason for the world leadership of GASO in the field of pipeline pumps?

ANSWER: Supremacy of design — based not on any single feature but on a *combination* of features developed through unmatched experience and specialized knowledge of pipeline requirements. For example:


Large valve openings
No overlapping of piston rods
Crank bearing steel shell genuine babbitt-lined
All valves on one level
Flood lubrication
Bearings sealed off from crankcase lubricant
Extra deep stuffing boxes
Extra large roller bearings
Cranks set at 90° angle
Herringbone gears, center mounted

● Gaso Pumps have long been favored by engineers because they embody the kind of engineering that means long, trouble-free service and lower operating costs. May we send you a copy of our latest catalog?

Gaso Pump & Burner Mfg. Co., 902 E. First Street, Tulsa, Oklahoma. Export Office: 149 Broadway, New York. Los Angeles: Service Oil Field Supply Co., 5333 S. Riverside Drive.

GASO PUMPS
for every oil industry need

kelly slides through the center without friction and interference, and this is accomplished with the new type. A slight curvature of the inserts permits the kelly to adjust itself freely.

REPRESENTATIVES: E. F. Goggins, president; C. A. Muncey, vice president; A. Reinhold (Abegg & Reinhold Company), Dean Love (Chiksan Oil Tool Company).

Manning Oil Specialties
HOUSTON, TEXAS

Asbestos Manufacturing Company
HUNTINGTON, INDIANA

Sureshot Well Survey Instrument Company

Merritt Pipe Hook Company

EXHIBIT: Thompson sand pumps. Purcell cathead with interchangeable sleeve. "Sure Shot" well survey instrument. Merritt pipe hook and hat-hole elevator. Asbestos Manufacturing Company's brake lining.

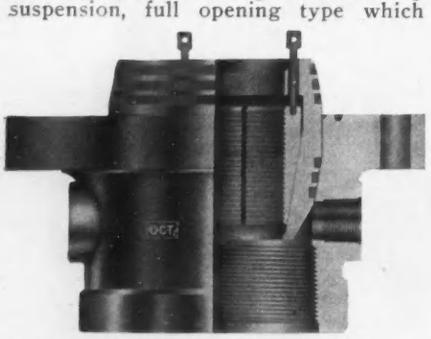
REPRESENTATIVES: M. Manning; Wilkes Campbell, Asbestos Manufacturing Company; Henry Beal, Sureshot Well Survey Instrument Company; and A. P. Merritt, Merritt Pipe Hook Company.

Oil Center Tool Company
HOUSTON, TEXAS
Booths 400, 401, 402, 1049

EXHIBIT: Blowout preventers. Casing heads. Braden heads. Tubing heads. Adjustable and quick-change chokes. High-pressure fittings. Christmas trees. Air balanced pumping unit.

NEW PRODUCTS:

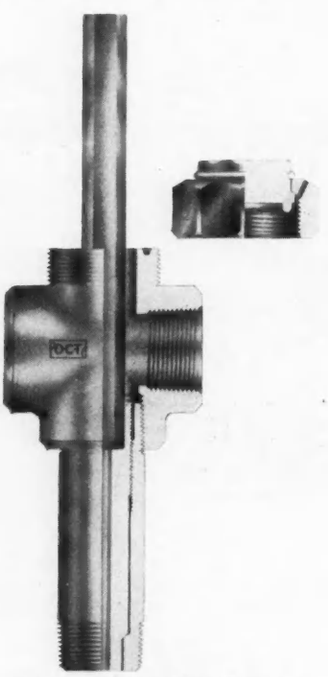
O-C-T Type C-7-X Casing Head—The Type C-7-X casing head is a slip suspension, full opening type which



O-C-T Type C-7-X Casing Head

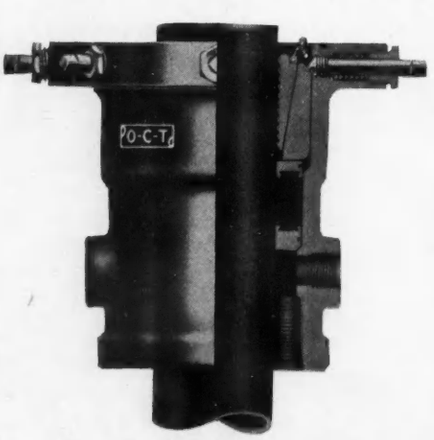
permits drilling, running and landing casing through blowout preventer equipment. The slips and slip bowl are made in one unit, which passes through the blowout preventer equipment. Weight of casing compresses packing to effect a seal. After hanging casing, eye bolts in slips are backed out and holes welded up at same time bead weld is made between slip bowl and casing.

Type FC-100 Flow Fittings—This O-C-T Flow Fitting, available in either cross or tee types, is designed for use with any standard type choke that permits replacement of the bean through the flow fitting. A special cap with swivel nut replaces the conventional bull plug. A coarse, straight thread connection between the fittings and swivel nut prevents galling of the threads as is usually the case where the bean is changed constantly and a bull plug is used. A ring, machined integrally with the cap nut, effects a seal in a groove provided on the flow fitting.



Type FC-100 Flow Fitting

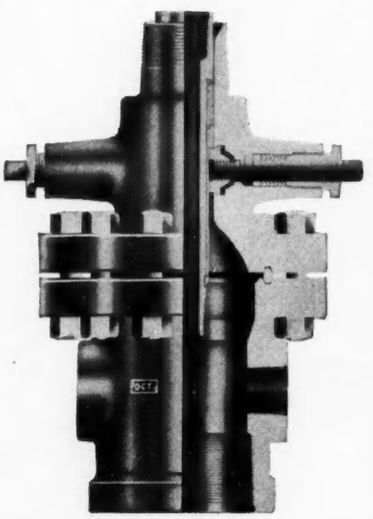
Type C-9-PS Slip Suspension Casing Head—The Type C-9-PS Slip Suspension Casing Head permits landing casing at any desired point, and permits drilling and running casing through blowout preventer equipment flanged above. Packing, slips, and slip bowl pass through blowout preventer equipment. Packing is compressed by weight of casing. Hold-down screws aid in



Type C-9-PS Slip Suspension Casing Head

compressing packing. Available with or without welding flange, which holds casing down and effects auxiliary seal above slips. Made in test pressures up to 10,000 pounds.

Type T-19 Tubing Head—The Type T-19 Tubing Head features retractable hanger seats which permit tubing collars and tubing to pass through head to facilitate washing behind liner and setting packer. After drilling plug and running few joints of tubing with liner and



O-C-T Type T-19 Tubing Head

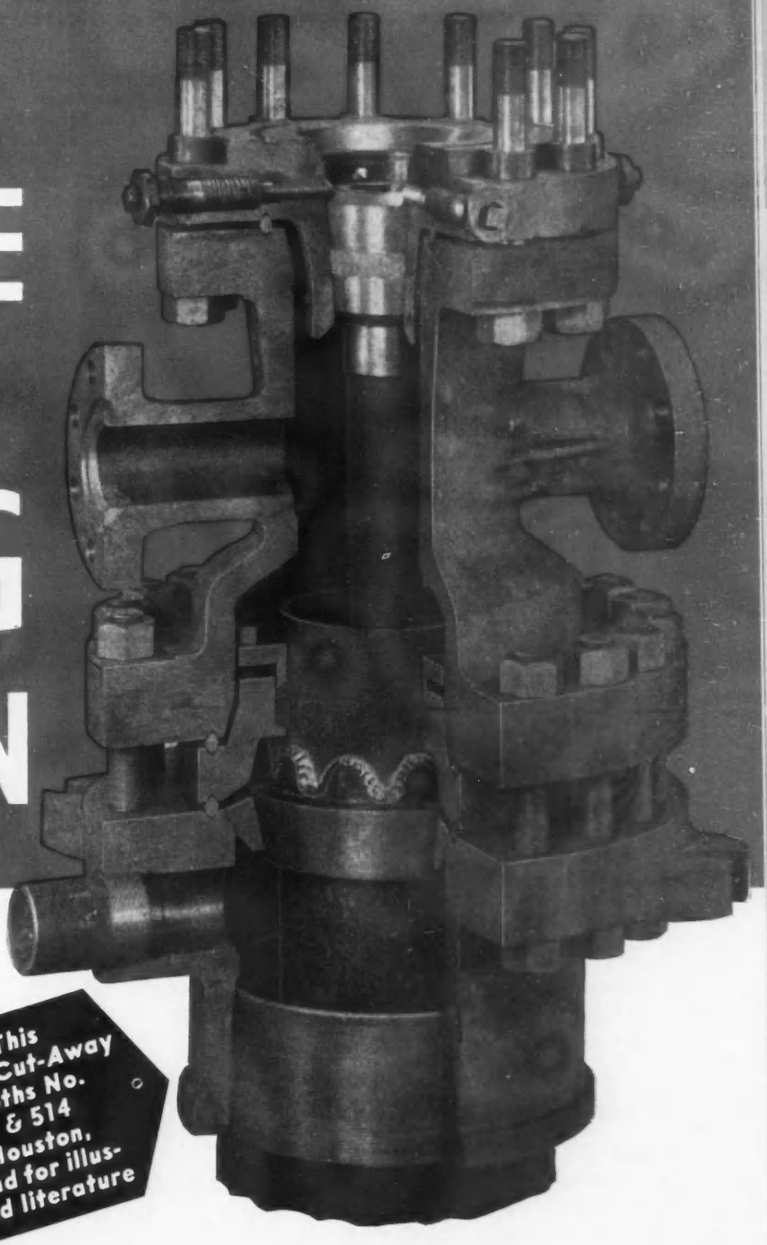
packer, blowout preventer is replaced by Christmas tree made up on top of Tubing Head connection, which is stripped over tubing and installed on body of head. O-C-T Stripper Rubber Type Blowout Preventer installed above Christmas tree permits running tubing to bottom in safety, collars and hanger passing through stripper rubber which serves as a stuffing box while washing behind liner. After washing and setting packer, tubing is raised to suspension point and retractable seats screwed in to engage hanger.

O-C-T Type T-16 Tubing Head Installed Above Type V-7X Casing Head—This combination of O-C-T Tubing and Casing Heads permits all drilling and completion operations under pressure through flanged blowout preventer equipment. (See above description of Type C-7X Casing Head.) The Type T-16 Tubing Head suspends the tubing string from a threaded type hanger which passes through the blowout preventer equipment flanged above. Lock down screws are provided to force the hanger into sealing position, permitting the removal of blowout preventer equipment with pressure on the well, or permitting safe re-entry of the well under pressure at any time after completion.

O-C-T Quick Change Choke Adapter—The O-C-T Quick Change Choke Adapter was designed to eliminate the hazard caused by conventional threaded bull plugs. This adapter is installed on the Christmas tree in the same manner as a bull plug, but instead of breaking out the tapered thread connection each time it becomes necessary to change the choke, the straight thread

Get The Inside Facts About This

NEW DEPENDABLE METHOD OF CASING SUSPENSION



See This Full-Size Cut-Away in Booths No. 512 & 514 at Houston, or send for illustrated literature

STRONGER, SAFER, EASIER, QUICKER than ALL other methods of suspending casing

BAASH-ROSS

Type "W"

LANDING AND CASING HEADS

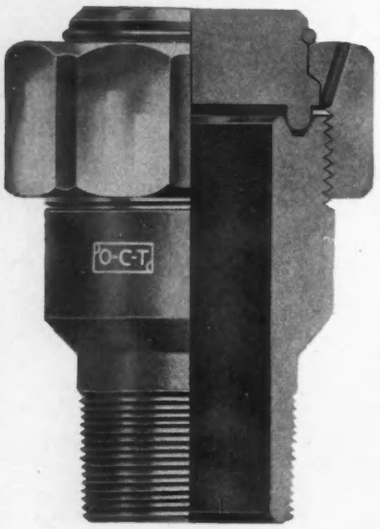
Unretouched photo showing welding ring welded to 8⅝"—44.7 lb. A.P.I. Grade D Seamless casing, tested in tension to 630,000 pounds without evidence of failure of the weld.

BAASH-ROSS TOOL COMPANY

Los Angeles - Houston - Oklahoma City

Export Office:

30 Rockefeller Plaza, New York City



O-C-T Quick-Change Adapter

connection between the hexagon nut and body of the adapter is broken. This straight thread may be broken and remade as often as desired without damaging the threads. The adapter may be made up by hand, and one turn with a wrench seals the joint. The 2-inch and 2½-inch sizes made in 6000-pound test; the 3-inch and 4-inch sizes made in test pressures up to 10,000 pounds.

REPRESENTATIVES: A. J. Penick, president; K. T. Penick, secretary-treasurer; B. V. Fisher, vice president and sales manager; H. D. Start, vice president; Val R. Wittich, foreign sales representative; Paul Bainbridge, Walter Burke, C. J. Hillman, C. K. Mount, I. C. Wells, H. C. Stewart, H. S. Perry, and J. E. Edwards, sales representatives.

Walter Ruska and Company, Inc.

HOUSTON, TEXAS
Booths 141-A, 141-D

EXHIBIT: Amplifiers. Bottom hole samplers. Flowmeters. Galvanometers. Mercury pumps. Microscopes. Optics. Surveying instruments. Permeability instruments. Porosity instruments. Precision chokes. Flow beans. Oscillographs. Seismographs. Recorders. Radio equipment.

REPRESENTATIVES: W. E. A. Ruska, president; Mrs. Helen Greening, secretary; and Mrs. W. A. Gardner.

Pyrene Manufacturing Company

NEWARK, NEW JERSEY
Booth 501

EXHIBIT: Pyrene vaporizing liquid type fire extinguishers. Guardene and Essanay soda-acid type fire extinguishers. Phomene and Fastfome foam type fire extinguishers. Duragarde 2½- and 5-gallon water pump type fire extinguishers. Accurate 5-gallon anti-freeze pump type fire extinguisher. Hydrogarde 2½-gallon water gas cartridge type fire extinguisher. Winter-garde 2½-gallon water anti-freeze gas cartridge type fire extinguisher. Phomene, a foam accumulator. Phomaire play pipe. Pyrene standard, extra-heavy and "Doubleduty" bar-reinforced tire chains. Tire chain accessories. Mogul tractor tire chains.

NEW PRODUCTS:

Guardene and Phomene Fire Extinguishers—The Guardene soda-acid and Phomene foam type extinguishers

Guardene and Phomene Fire Extinguishers

have seamless drawn domes and shells of one-piece copper and patented solderless collar. There are no side seams, rivets or beads.

REPRESENTATIVES: J. P. Maloney, general field sales manager; W. L. Ferrier, Chicago district manager; B. S. Allen, sales representative; Dan Butler, sales representative; and B. F. Covington, sales representative.

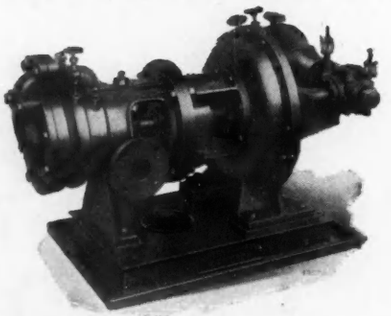
Ingersoll-Rand Company

PHILLIPSBURG, N. J.
Booth 1550

EXHIBIT: "Class TRV" turbine-driven pump. Combustion system of the Type "S" oil engine. "XVG" gas-engine-driven compressor.

NEW PRODUCTS:

"Class TRV" Turbine-Driven Pump—Both turbine and pump on this machine are combined as one unit on a common shaft. The pump is built in single-stage



"Class TRV" Turbine-Driven Pump

sizes for capacities from 5 to 1000 gallons per minute against heads as high as 220 feet, and in two-stage sizes for capacities to 275 gallons per minute and heads up to 600 feet.

REPRESENTATIVES: F. W. Sultan, Jr., manager, Houston office, and J. J. Janzen, New York office.

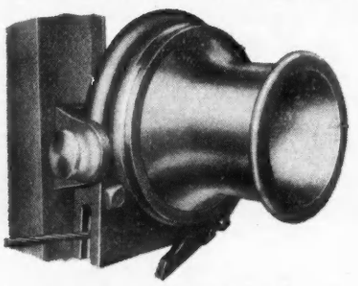
American Iron and Machine Works Company

OKLAHOMA CITY, OKLAHOMA
Booths 428, 430

EXHIBIT: American "Simplomatic" Cathead. Drill pipe elevator. Slush pump valves and seats. Pump compounding valve. Manifold valve. Release valve. Improved stripper type tubing support.

NEW PRODUCTS:

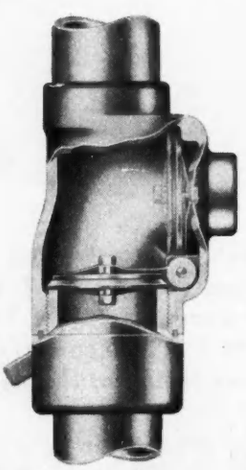
American "Simplomatic" Cathead—This cathead is a new departure in joint breaking appliances, according to the manufacturer, and is so designed that all metallic shocks or jars have been



American "Simplomatic" Cathead

practically eliminated by lightening the engaging member to which the jerk line is attached. The spool is so designed that all strain is placed approximately 3 inches from the jack post bearing. Due to the engaging mechanism, it is adaptable to either fast or slow draw works. It can be dismantled without removing spool from the line shaft, thus making it easy to repair or replace worn parts.

American Compounding Valve—This valve speeds up the compounding of slush pumps. It has a removable seat, which enables the operator to renew



American Compounding Valve

The Oil

Bank of America

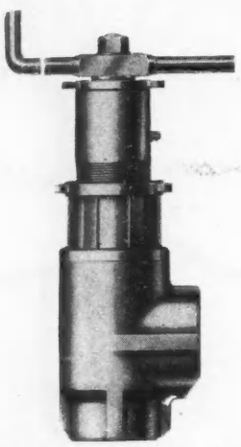
is just ANOTHER NAME for the . . .

NATIONAL BANK OF TULSA

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

the seat easily. There is a flapper valve on the inside with rubber insert that fits the seat. The plates on the flapper are of sufficient strength to withstand all the pressure pumps are capable of raising. It is about one half the weight of conventional valves. The valve is used in pumping down cement or other substances when extreme pump pressure is required.

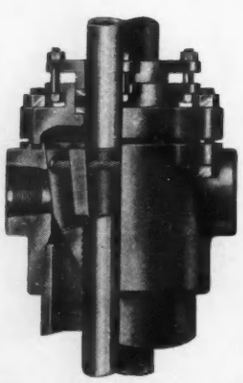
American Manifold Valve—According to the manufacturer, this valve is a departure in rising stem, high pressure angle valves. Among its uses, it is outstanding as a pump manifold valve. The



American Manifold Valve

locking feature on the top of the stem housing permits the valve to be set at any position desired, doing away with creeping of the valve stem. The valve stem is made in two parts separated by a ball bearing, which reduces friction considerably while opening and closing the valve. The valve is tapered and sets in a removable set. All parts may be removed or replaced without disturbing connections in the valve body.

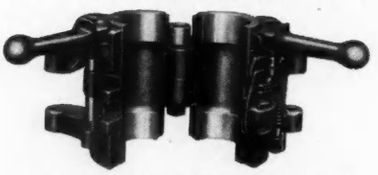
American Improved Type "MT" Tubing Support—This device is designed to shorten hook-ups, and give maximum strength at a needed point. It has a full opening body, making it possible to run a tubing catcher or swab, and has two



American Improved Type "MT" Tubing Support

2-inch or 3-inch outlets. Slips are of 3-piece type, heat treated, and case hardened to insure long life. Slips are fastened together with soft-laid wire line, which makes it possible for one man to set them, and also prevents dropping them in the hole.

American Drill Pipe Elevator—An improved latch enables the operator to unlatch the gate by moving either right or left handle slightly away which prevents



American Drill Pipe Elevator

any damage to fingers or hands. It can be used either for fourble board or finger board racking. The elevator is so designed that the universal swivel joint, as well as all other parts, can be repaired or replaced on the derrick floor.

REPRESENTATIVES: J. F. Cailloux, president; Earl W. Miller, vice president and treasurer; John R. Riley, sales manager; George S. Hinkle, Gulf Coast district manager; Fred Ryals, Gulf Coast district assistant manager; L. D. Murray; P. K. Ridge; and O. L. Garrett.

Toledo Pipe Threading Machine Company

TOLEDO, OHIO

Booths 365, 367

EXHIBIT: Toledo hand-operated pipe tools. Toledo power drive. Power pipe machines.

NEW PRODUCTS:

Toledo No. 101 Adjustable Bolt Die Stock—A feature of this tool is the patented die adjustment, which allows the user to quickly set the dies for deep, shallow or standard threads. It is not necessary to cut a thread to find out how the die is set. All four cutting edges of the segments are simultaneously moved by turning the knurled cam

Toledo No. 101 Adjustable Bolt Die Stock

ring. Die change is easily made from one size to another by removing the four head cover screws, taking off the cover, lifting out the die segments and bushing and inserting the proper bushing and segments in the stock. The individual segments can be easily reground on an ordinary grinding wheel. Handles are made of solid steel; the stock is made of high grade malleable iron enameled black. The tool measures 17 inches in length and weighs 2¾ pounds.

REPRESENTATIVES: W. R. Vosper, C. A. Wagner, Hugh Tierman, and Ed. Recker.

Wilson Supply Company

HOUSTON, TEXAS

Booths 234, 236, 238, 240, 339, 341

EXHIBIT: Nixon surface control gas lift system. Miscellaneous items of equipment.

NEW PRODUCTS:

Nixon Surface Control Gas Lift System—This system is controlled from the surface by an intermitter which is in a weather-proof housing. The time control clock in the intermitter releases gas pressure at regular pre-determined intervals through the surface operating valves into a weight cylinder suspended over the well. The cylinder, by means of a wire line, raises a weight bar into the flow valve in the well, permitting gas pressure from the annular space to enter tubing and lift a column of fluid to the surface. When the fluid reaches the surface, it releases pressure in the weight cylinder, allowing the weight bar to lower out of the flow valve, which is then closed by pressure in the annular space. The system handles large or small volumes of fluid from either high or low fluid levels.

American Pipe and Steel Corporation

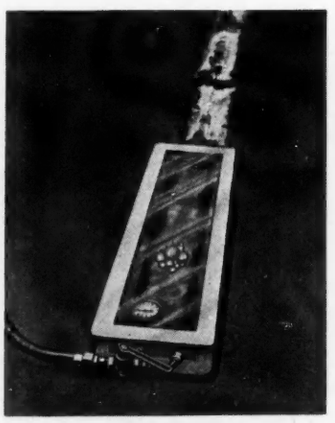
ALHAMBRA, CALIFORNIA

Booth 1133

EXHIBIT: American Seam Tester. American Unitank flange. American Armor-Clad pipe coating machine.

NEW PRODUCTS:

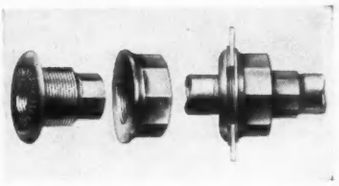
American Seam Tester—This device is especially designed and constructed



American Seam Tester

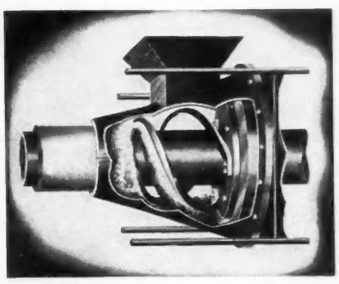
for speedy leak detection in all types of storage tanks and pipe lines.

Unitank Flange—A supply of special bakelite samples of Unitank flanges will be available at the booth.



Unitank Flange

Armor-Clad—This is a protection against corrosion, electrolysis, abrasion and soil stresses for new pipes and the rejuvenation of old pipes in service.



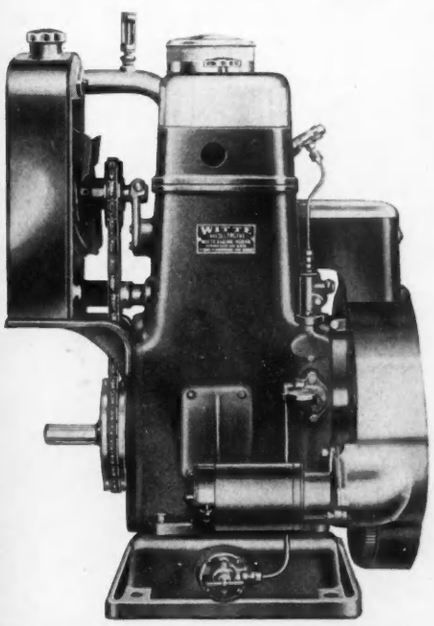
Armor-Clad Pipe Coating Machine

REPRESENTATIVES: John McMillan, sales manager, and Keith Galvin, sales representative.

Witte Engine Works

KANSAS CITY, MISSOURI
Booth 1024-A

EXHIBIT: 3-KVA vertical Diesel-electric plant for automatic operation. 7½-KVA vertical Dieselectric plant electrically started. 9-horsepower vertical Diesel engine with gas conversion equipment to operate on natural gas. 7½-KVA vertical Dieselectric plant manually started. 8-horsepower special gas/gasoline engine used for small pumping jobs, manually started.



Witte 9-H. P. Vertical Diesel Engine

NEW PRODUCTS:

Witte Vertical Diesel Engine—This 9-horsepower unit is a 4-cycle, solid injection, wet liner type with pre-combustion system. It is furnished engine only with pulley; engine with Twin Disc Clutch and pulley; and engine and Twin Disc Clutch, reduction gear and pulley for power drive. It is also furnished with direct-driven generator for light and power up to 6 KW, A.C. or D.C. All units are manual or electric starting. The unit is also convertible for operation on natural gas.

REPRESENTATIVES: P. E. Parker, chief engineer; C. B. Berry, sales department; and Dewey Phillips, factory representative.

Maintenance Engineering Corporation

HOUSTON, TEXAS

Bonney Forge & Tool Works

ALLENTOWN, PENNSYLVANIA

Ashton Valve Company

BOSTON, MASSACHUSETTS

Edward Valve & Manufacturing Company

EAST CHICAGO, ILLINOIS

Mason-Neilan Regulator Company

BOSTON, MASSACHUSETTS

Philadelphia Steel and Iron Company

PHILADELPHIA, PENNSYLVANIA

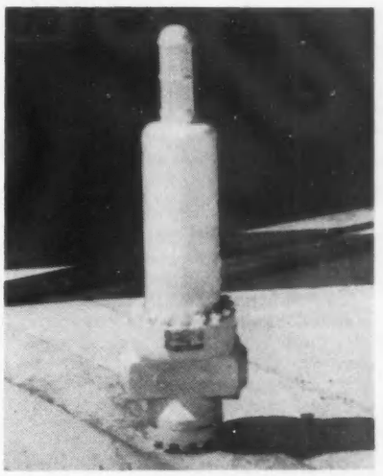
Commercial Iron Works

LOS ANGELES, CALIFORNIA
Booths 608, 610, 612, 614, 616, 709, 711, 713

EXHIBIT: Forged steel valves and fittings. Mason-Neilan Regulator Company's control instruments, pneumatic transmission system, liquid level controllers, control valves and pressure regulators. Bonney Forge & Tools Works' weldolets, thredolets, chisels, hammers, pliers, wrenches, etc. Ashton Valve Company's pop and relief valves. Commercial Iron Works' orifice fittings. Philadelphia Steel & Iron Company's steel flanges. Edwards Valve & Manufacturing Company's forged steel valves, check valves, oil field boiler stop valves, hydraulic gas valves, boiler valves, relief valves, strainers, straight-through valves.

NEW PRODUCTS:

Gas Reducing Regulator—On display is the new "Masoneilan" forged steel type 40-C gas reducing regulator, suitable for up to 4000 pounds inlet pressures and any desired outlet pressure between 2 and 550 pounds. One-inch and two-inch screwed bodies of forged steel, valve trim of KA2S stainless steel, totally enclosed to prevent unauthorized tampering. Steel spring housing insures against personal injury while adjusting spring compression.



Masoneilan No. 40-C Regulator

Forged Steel Stop Valves—A complete line of Edwards screwed end, flanged end, and welding end globe and angle stop valves of forged carbon and alloy steels. Included are many types, from tiny gauge valves for instrument lines to large screwed-end forged steel hydraulic valves for 6000 pounds working pressure. Flanged end valves include equipment suitable for the highest operating pressures and temperatures.

Edward Petroleum Globe Stop Valve

Boiler Feedwater Pumping Unit—The company is presenting a new design in unitized boiler feedwater pumping units designed particularly for offshore drilling barges. The unit is so

FOR ANY JOB

Where Underreamers or Reamers Are Used

The Tools That *Experience* Built

For years we have worked shoulder to shoulder with men in the oil industry. The experience of these men in the field has been translated into **safer oil tools,** lower maintenance costs and top performance. That is why we repeat again and again Grant oil tools give you **"the best — for less — per foot."**

No. 1 **Grant Hydrostatic Bailer.** Has unusual loading capacity which may be increased by adding extra sections. Cleans wells in fraction of time required by less efficient methods. Often pays for itself on **first job.**

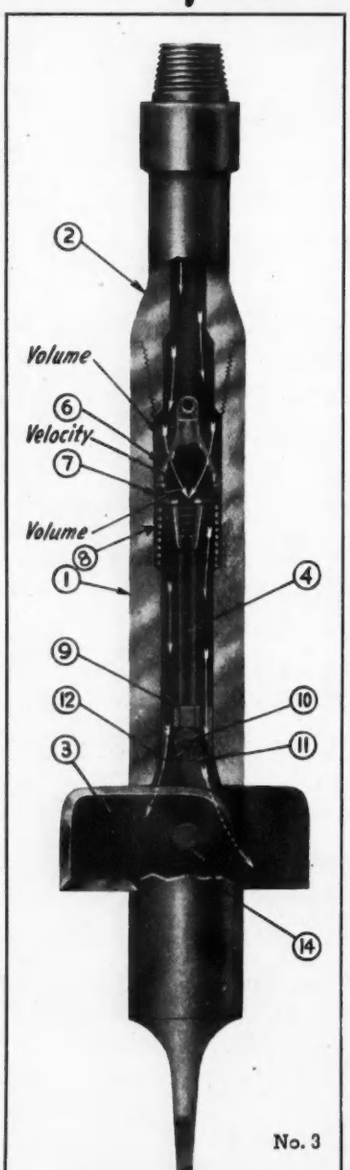
No. 2 **Grant Hydrostatic Perforation Cleaner.** Concentrates powerful suction upon limited section of perforated pipe doing thorough cleaning job. Has often doubled production in unprofitable wells.

No. 3 **Grant Hydraulic 2-blade Expansion Wall Scraper.** The logical tool for removing incrusted mud, projections and irregularities in the hole. Expansion range 4" to 40".

No. 4 **Grant Underreamer and Rotary Hole Enlarger.** Has rugged strength of Rock Bit plus expansive features of an underreamer. Combines hydraulic and spring expansion.

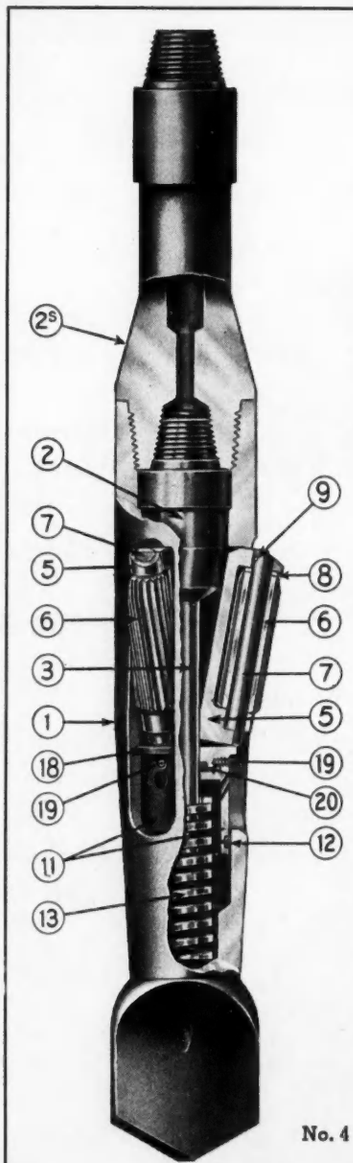
No. 5 **Grant Roller-bearing Cutter Reamer.** Combines shearing and cutting action. No part rotates uselessly. Working load is evenly distributed over entire cutter. Examine the "angle" of cutters and tapered construction.

All these tools (and more) are pictured in Grant's 1939 Catalogue. It's FREE.



No. 3

For Drag Bit Digging



No. 4

For Rock Bit Digging

GRANT

OIL TOOL CO.

MAIN OFFICE AND PLANT

2042 E. VERNON AVE., LOS ANGELES, CALIF.

ASK FOR NEW 1939 CATALOGUE

EXPORT OFFICE: 30 ROCKEFELLER PLAZA, NEW YORK CITY

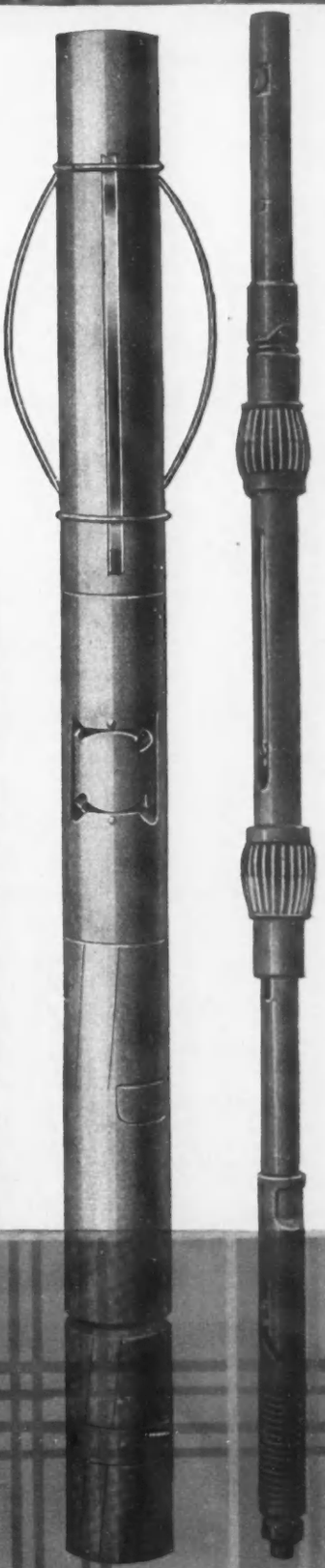
MID-CONTINENT OFFICE: 5807 NAVIGATION BLVD., HOUSTON, TEXAS

USE GRANT TOOLS

THE BEST——FOR LESS——PER FOOT

Here's the Key to Lower Costs

Grant Oil Tools save time . . . and **time** is **money.** Their higher efficiency and greater economy are particularly appreciated when the going is tough. That's the time when GRANT tools stand up and take it. Truly they are the key to **lower costs.**



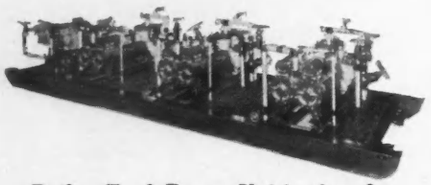
See These Tools at the Oil Show

Visit the GRANT booth at the Oil Show — Number 1580 — then you will understand why Grant tools have become the standard of comparison in the oil industry.

Inspect them closely. The closer your scrutiny the higher will be your respect for their sturdy, direct-action construction which assures unlagging performance in all kinds of formation. To this add an extra margin of safety, longer wear and lower maintenance costs . . . result — LESS COST PER JOB.

Whatever your requirements GRANT'S facilities are geared to meet them. Our new warehouse in Houston can supply your needs promptly in the Mid-Continent and Gulf Coast fields.

Your Money Buys *More* When You Specify GRANT



Boiler Feed Pump Unitization for Drilling Barges

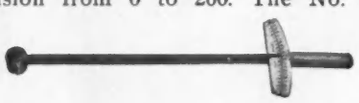
manifolded that it may be used as a feedwater heating medium or as a heating medium for any other equipment on the drilling rig. All live steam and water discharge piping on the unit is constructed for 1000 pounds cold working pressure, using Vogt forged steel fittings, Edwards forged steel valves and seamless pipe.

No. 66 Bonney Torque-Indicating Wrench—For obtaining uniform tension on bolts and nuts in tightening couplings, flanges, engine cylinder heads, etc. Is pre-set at desired tension and reversible ratchet mechanism locks

No. 66 Bonney Torque-Indicating Wrench

when desired tension has been reached. Has no dials or gauges to get out of order or become damaged because of careless handling. Has wide range of applications, tension range from 25 to 125 foot pounds. Has no coil springs. 17 inches long. Fully chrome plated and polished. Can be used with all ½-inch square drive sockets, handles and attachments.

No. 56 Torque-Indicating Wrench—Is sturdily constructed with heavy, ground, spring-steel shaft with pointer which remains rigid. Scale is conveniently placed near handle grip and is accurately calibrated in foot pounds of tension from 0 to 200. The No. 56



No. 56 Bonney Torque-Indicating Wrench

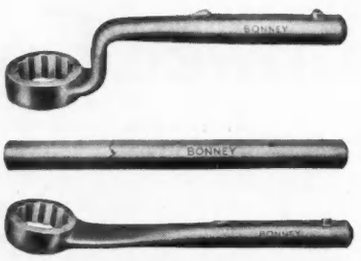
wrench is permanently adjusted, light in weight, of rugged construction and has no moving parts to get out of order. The extremely small head permits using it in places normally inaccessible with other torque wrenches. Equipped with ½-inch square adaptor for use with all ½-inch square drive sockets and attachments. Weighs only 3 pounds. Over-all length 23 inches.

Bonney TuType Wrenches—Drop-forged of Bonaloy Steel, are heavily chrome plated, with polished heads. Providing an open end wrench and box wrench with double hexagon opening in the same tool, permits using the end most applicable to the job at hand.

Bonney TuType Wrenches

Both openings are the same size. The box end is offset at 15° to give proper clearance for obstructions. The open end is angled at 15° for efficiency. Openings range from ⅜-inch to 1-7/16-inch, over-all lengths from 5 inches to 21 inches depending upon the size of the opening.

Bonney Heavy Duty Box Wrenches—Made in two types—with head placed at 15° angle and with double offset head. They are designed for use with interchangeable tubular handle for breaking loose or tightening large diameter nuts with a minimum of effort. Drop forged of chrome-alloy steel, they are carefully



Bonney Heavy Duty Box Wrenches

heat treated to insure the ultimate strength of the steel and are heavily plated. Double hexagon openings in seven sizes for each type range from 1⅝-inch to 2¼-inch. The interchangeable handle 30 inches long is made of seamless steel tubing and provides the extra leverage necessary in turning large nuts.

Bonney Socket-End WeldOlets—Drop forged of steel of the composition most suitable for welding. They are stock fittings designed to make branch pipe connections such as tees, crosses, side outlets, etc., by welding. Branch

Bonney Socket-End WeldOlets

connections are made by attaching a socket-end WeldOlet to the main pipe using a Vee or fusion weld. The button may be removed before or after the fitting is attached. All cutting, threading and fitting of the main pipe is eliminated. Preliminary layouts of the main pipe are unnecessary and no templets are used. They form strong, permanent, leakproof joints. Free flow conditions are improved because of funnel-shaped outlets. They are adaptable to maintenance and new construction, indoors or out, above or below ground.

REPRESENTATIVES: From Maintenance Engineering Corporation—C. E. Naylor, president; W. J. Peddie, vice president; W. B. Rawson, M. N. Aitken, C. N. Schwartz, G. T. Moore, J. P. Wiseman, sales engineers; R. C. Cogswell, sales representative; C. K. Brown, sales representative; E. B. Haldeman, sales engineer; and W. H. Leverett, shop superintendent.

From Mason-Neilan Regulator Company—F. K. Morrison, sales manager; C. M. Wood, Carl Gram, sales engineers.

From Edward Valve & Manufacturing Company, Inc.—W. W. Crawford, president; J. E. McDonald, sales manager; W. W. Mohr, chief engineer; W. F. Crawford, vice president.

Dixon Valve & Coupling Company

PHILADELPHIA, PENNSYLVANIA
Booths 533, 535

EXHIBIT: General line of high-pressure hose couplings, stressing those units most suitable for rotary hose service.

NEW PRODUCTS:

"Built-In" Rotary Coupling—The outstanding feature of the display is the new Dixon "Built-In" rotary coupling, which is new. Construction of this coupling will be shown completely by a demonstration model illustrating the functions of the various members of hose and their relation to the coupling.

REPRESENTATIVES: J. E. Bobo, S. J. Yerkes, and R. B. Goodall.

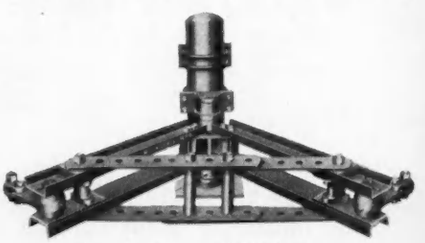
W. C. Norris, Manufacturer, Inc.

TULSA, OKLAHOMA
Booths 652, 654

EXHIBIT: Swaged nipples and bull plugs. Turnbuckles. Sucker rods. Pull rods. "Blue Ribbon" working barrels. "Free Wheeling" stuffing boxes. Braden heads. Casing heads. Tubing heads. Polished rods. Miscellaneous items of own manufacture.

NEW PRODUCTS:

Type "L" Swing—This type swing is available in two types, the regular conventional rigid type and the adjustable type. The two arm adjustable 30-degrees to 90-degrees. The three arm adjustable 100-degrees to 160-degrees. Both having



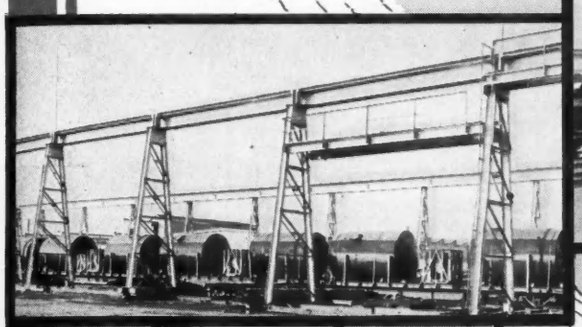
Norris Type "L" Swing

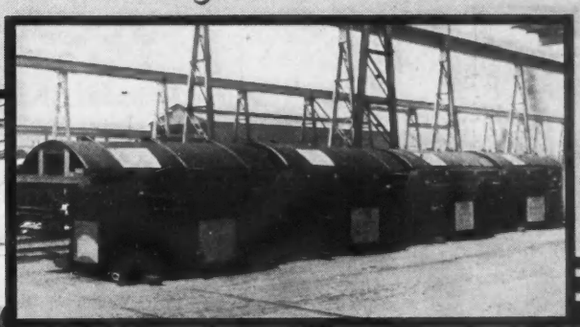
a rod line load capacity of 8000 pounds. Oil bath rocker bearings for 7-inch OD or 8⅝-inch OD post and bronze bushed oil sealed pull rod connection bearings with two Norris patented pull rod connections.

No. 405-407-408 Underpull Jacks—The manufacturer is now offering three new sizes of underpull pumping jacks, increasing their line of this product to a range of ten sizes capable of pumping wells with individual polished rod loads of 2500 pounds to 20,000 pounds. With such a complete range they are most

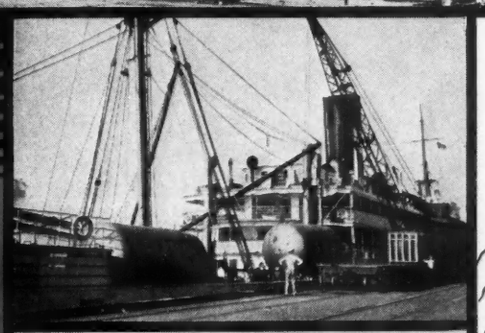
PETRECO *in* FOREIGN FIELDS

A portion of various shipments of twenty-six Petreco Electromatic Dehydrators on board railroad cars for reshipment by water to foreign countries.

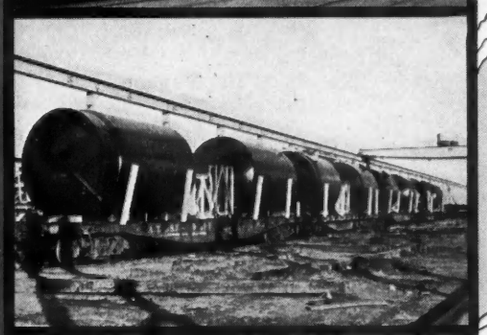




Petreco Electromatic Dehydrators knocked down and crated for shipment to foreign oil fields.



Petreco Electromatic Dehydrators being loaded on a freighter at Los Angeles Harbor.



Part of a shipment of twelve Petreco Electromatic Dehydrators to South American oil fields.

Extensive use of the Petreco Electromatic Dehydration Process in foreign oil fields is a fine tribute to its simplicity, efficiency and economy. For even though Petreco maintains neither sales nor service facilities in foreign countries, the Petreco process has been used successfully for many years by many foreign operators. That it is rapidly replacing more expensive treating methods is evidenced by the number of plants installed during recent years.

Petreco long has set the standard for efficiency, simplicity, and economy in treating crude oil emulsions and, regardless of location, provides operators with the ultimate in modern dehydration procedure. Petreco engineers and extensive laboratory facilities are available at all times for assistance in combatting emulsion problems. Preliminary investigations involve no cost or obligation.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA
General Offices. 530 West Sixth Street, Los Angeles, California
Gulf Coast Headquarters: Houston, Texas

OWNERS OF THE PETRECO Electromatic

DEHYDRATION and DE-SALTING PROCESSES

Norris No. 405, 407 and 408 Underpull Jacks

able to economically equip each well. The sturdy design of these smaller jacks combine the desirable features of those previously offered with the same quality construction. They are equipped with adjustable side braces, adjustable saddle bearings, and bronze bushed throughout. The number of working parts have been kept at a minimum, insuring low operating cost.

Type "L" Stroke Post—The Norris Type "L" adjustable stroke post was developed primarily for the lighter wells being brought in throughout the Illinois district. It is rated to handle rod line loads up to 8000 pounds. Being rigid in construction, it is shielded arc-welded of structural channels. It is equipped with large bronze bushed

Norris Type "L" Stroke Post

bearings and adjustable alignment features. Provision is made for stroke multiplication when desired. "Built-In" knock-offs are available for the stroke post foundation eliminating the need for individual concrete blocks as required for conventional knock-offs. The pendulum is adaptable to a counterbalanced beam which is fast becoming standard equipment for balancing powers.

Type "S" Knock-Off—The Type "S" structural knock-off was designed to incorporate the advantageous features of the inverted notched bar along with a fabricated structural post. It is capable of handling a rod line load up to 20,000 pounds. The channels and gusset plates are shielded arc-welded to each other and to the main base assuring maximum rigidity and eliminating strain rods. The sturdy inverted bar glides smoothly on lubricated hardwood blocks with negligible wear. The operating mechanism of the knock-off is safe and simple in design.

Norris Type "S" Knock-Off

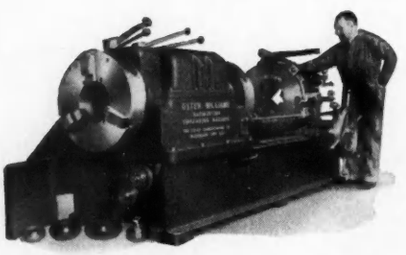
REPRESENTATIVES: W. C. Norris, J. H. Eustice, E. B. Wilson, H. H. Paris, William R. Barney, P. J. Donnelly, and H. V. Flemming.

Oster Manufacturing Company

CLEVELAND, OHIO

Booths 716, 718, 720, 722

EXHIBIT: No. 8-XHD "Rapiduction" heavy duty pipe threading and bucking up machine. No. 422 power vise stand, a portable power drive for hand pipe tools up to 6 inches capacity. No. 562 Tom Thumb portable pipe threading machine. No. 542 "Rapiduction Junior" bolt threading machine. No. 825 Tom Thumb chaser grinder for all makes and

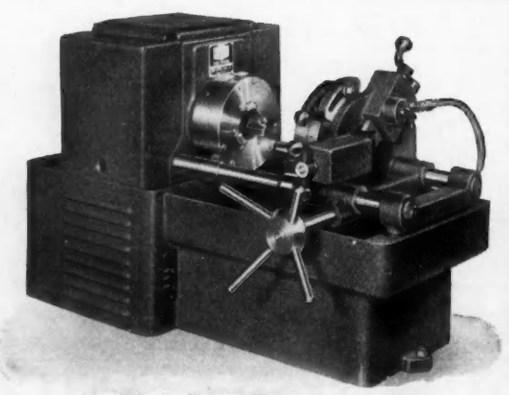


No. 8-XHD Heavy Duty "Rapiduction" Pipe Threading and Bucking Up Machine

types of chasers. Oster "Bestoil." Complete line of Oster hand operated stocks and dies, both plain and ratchet models, for all sizes up to 4 inches, inclusive.

NEW PRODUCTS:

No. 8-XHD Heavy Duty "Rapiduction" Pipe Threading and Bucking Up Machine—This machine, designed especially for oil field requirements, has a capacity covering all sizes up to 8⅝-inch O.D., using only one die head and only one set of chasers for each pitch.



No. 562 Tom Thumb Portable Pipe Threading Machine

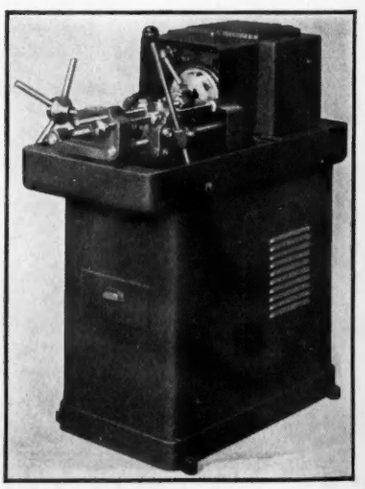
No. 562 Tom Thumb Portable Pipe Threading Machine—This device, having a capacity of all sizes from ½ to 2 inches inclusive and with a special universal drive shaft, will operate geared die-stocks up to 8 inches capacity. It incorporates ball bearing construction throughout. The machine is powered by a ½-horsepower Black and Decker universal, reversible, variable speed motor for light socket operation.

Oster Chaser Grinder—This device is equipped with a special universal fixture for holding all makes, types and sizes

Oster Chaser Grinder

of chasers. The motor is of sufficient horsepower to do a satisfactory grinding job, but is built to stall when too great a load is placed on it, thus eliminating any possible burning of chasers.

No. 542 "Rapiduction Junior" Bolt Threading Machine—This Oster-Williams unit is made in two sizes, No. 541 threading up to 1¼ inches, and No. 542 threading up to 1½ inches National Coarse. The machine can be adapted to all kinds of special threading work,



No. 542 "Rapiduction Junior" Bolt Threading Machine

drilling, tapping, chamfering, reaming and boring.

REPRESENTATIVES: A. S. Gould, vice president; H. C. Gardner, Southwest district manager; L. M. Gardner, representative; P. E. Willis, representative; S. Piascik, assistant superintendent; and Henry Zuerl, machine operator.

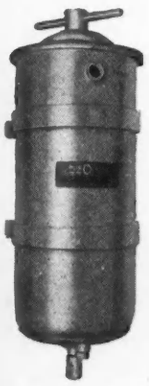
Motor Improvements, Inc.

NEWARK, NEW JERSEY
Booths 509, 511

EXHIBIT: Purolator lubricating oil filters. Fuel filters.

NEW PRODUCTS:

Oil Filter—This new filter has a new removable element lubricating oil filter which extends the crankcase filtering capacity range of this type Purolator. The new type known as the N-30, provides twice the filtering capacity of the N-29, formerly the top size of this series. The N-30 is recommended for diesel engines having a crankcase capacity of from 20 to 35 quarts.



N-30 Purolator Lubricating Oil Filter

When installation is made on gasoline engines, crankcase capacities up to 35 quarts are filtered. The replaceable element of this Purolator is of the depth type and employs new patented principles that permit distributing the oil throughout all of the filtering material. By utilizing all the filtering material, a fine degree of filtration is obtained and at the same time the filter element is enabled to filter from the oil and retain a greater amount of dirt than any other type of filter element.

REPRESENTATIVES: J. A. Graham, president; F. P. Herman, manager factory equipment sales; H. B. Graham, sales engineer; S. T. McCormick, sales engineer; T. R. Collioud, district representative, and A. E. Bell, engineer.

Gresham Sales Company

HOUSTON, TEXAS
Booths 1525, 1527

EXHIBIT: Grove reducing regulators, back-pressure regulators, and steam reducing regulators.

REPRESENTATIVE: Vernon B. Gresham.

American Well and Prospecting Company

CORSICANA, TEXAS
Booth 1016

EXHIBIT: Gumbo Buster 17½-inch oil-bath rotary. Gumbo Buster FC-200 drawworks. Two D-13000 Caterpillar Diesel engines. L-4 Allis-Chalmers rotating elements. Gumbo Buster engine skid units. Gumbo Buster "G-14"—7-inch x 14-inch power driven slush pump. Gumbo Buster 7-36, 125-ton crown block. Gumbo Buster 7-36, 125-ton traveling block. Gumbo Buster 5.75-30 crown block, 80 tons. Gumbo Buster 5.75-30 traveling block, 80 tons. Gumbo Buster 4-inch swivel. Gumbo Buster 6-inch swivel.

NEW PRODUCTS:

Gumbo Buster 17½-inch Oil-Bath Rotary—A fully enclosed high-speed rotary designed for shallow or medium depth drilling. The rotary is made entirely of steel and is of the overhanging sprocket construction. It is compact and light enough to be transported easily and is especially adaptable for use on portable and medium size rigs. The table revolves on high-speed ball bearings and is equipped with a special patented radial thrust ring which prevents tilting and wabbling and assures equal distribution of the load on the balls and assures correct meshing of the pinion and ring gear.

Gumbo Buster FC-200 Drawworks—Designed for use with one or more internal combustion engines of a total maximum of 200 horsepower. The drawworks is provided with friction clutches throughout, cut hardened sprockets and roller chain. Clutches, sprockets and chain are enclosed and chains are constantly sprayed with oil. There are four speeds to the drum, cat head shaft and rotary table. The outstanding feature of this drawworks is that any one of the four speeds can be instantly changed with one lever and without varying the speed of the engines.

Gumbo Buster G-14 Power-Driven Slush Pump—The power end of the pump is of the eccentric type construction with large diameter and generous width bronze eccentric bushings. The pump is so designed that all the wear occurring at the eccentrics is taken by the renewable bronze bushings. The 8-inch face steel Herringbone gear and pinion, shafts, bearings and the entire power end are of ample size to safely transmit 150 brake horsepower. The fluid end is made entirely of steel with both side and end suctions and is capable of safely withstanding a working pressure of 3000 pounds per square inch.

Gumbo Buster 7-36 Crown Block—Designed for medium depth wells and will safely handle 125 tons. These blocks are of all steel construction and can be furnished with manganese or heat-treated chrome nickel steel sheaves, 36 inches in diameter, operating on roller bearings. These blocks are of the single center pin type with a 7-inch diameter center pin. All nuts and cap screws are locked in place for safety. The 7-36 crown block is designed for use with the 7-36 traveling block and sheaves and bearings are interchangeable between the two blocks.

Gumbo Buster 7-36 Traveling Block—Designed for medium depth wells and will safely handle 125 tons. Made with three, four or five 36-inch manganese or chrome nickel heat-treated cast steel sheaves. All projecting nuts are protected and the wire line guards are long and stream-lined. The guards can be removed but do not have to be removed to string up the block. The lower clevis pin can be swung to either side for standing the block upright. This traveling block is designed for use with 7-36 crown block and the sheaves and bearings are interchangeable between the two.

Gumbo Buster 5.75-30 Crown Block—Designed for shallow depth drilling and will safely handle a load of 80 tons. These blocks are of all steel construction and can be furnished with manganese or heat-treated chrome nickel steel sheaves 30 inches in diameter operating on roller bearings. These blocks are of the single center pin type with a 5¾-inch diameter center pin. All nuts and cap screws are locked in place for safety. The 5.75-30 crown block is designed for use with the 5.75-30 traveling block and sheaves and bearings are interchangeable between the two blocks.

Gumbo Buster 5.75-30 Traveling Block—Designed for shallow depth wells and will safely handle 80 tons. Made with three, four, or five 30-inch manganese or chrome nickel heat-treated cast steel sheaves. All projecting nuts are protected and the wire line guards are long and streamlined. The guards can be removed but do not have to be removed to string up the block. The lower clevis pin can be swung to either side for standing the block upright. This traveling block is designed for use with the 5.75-30 crown block and the sheaves and bearings are interchangeable between the two blocks.

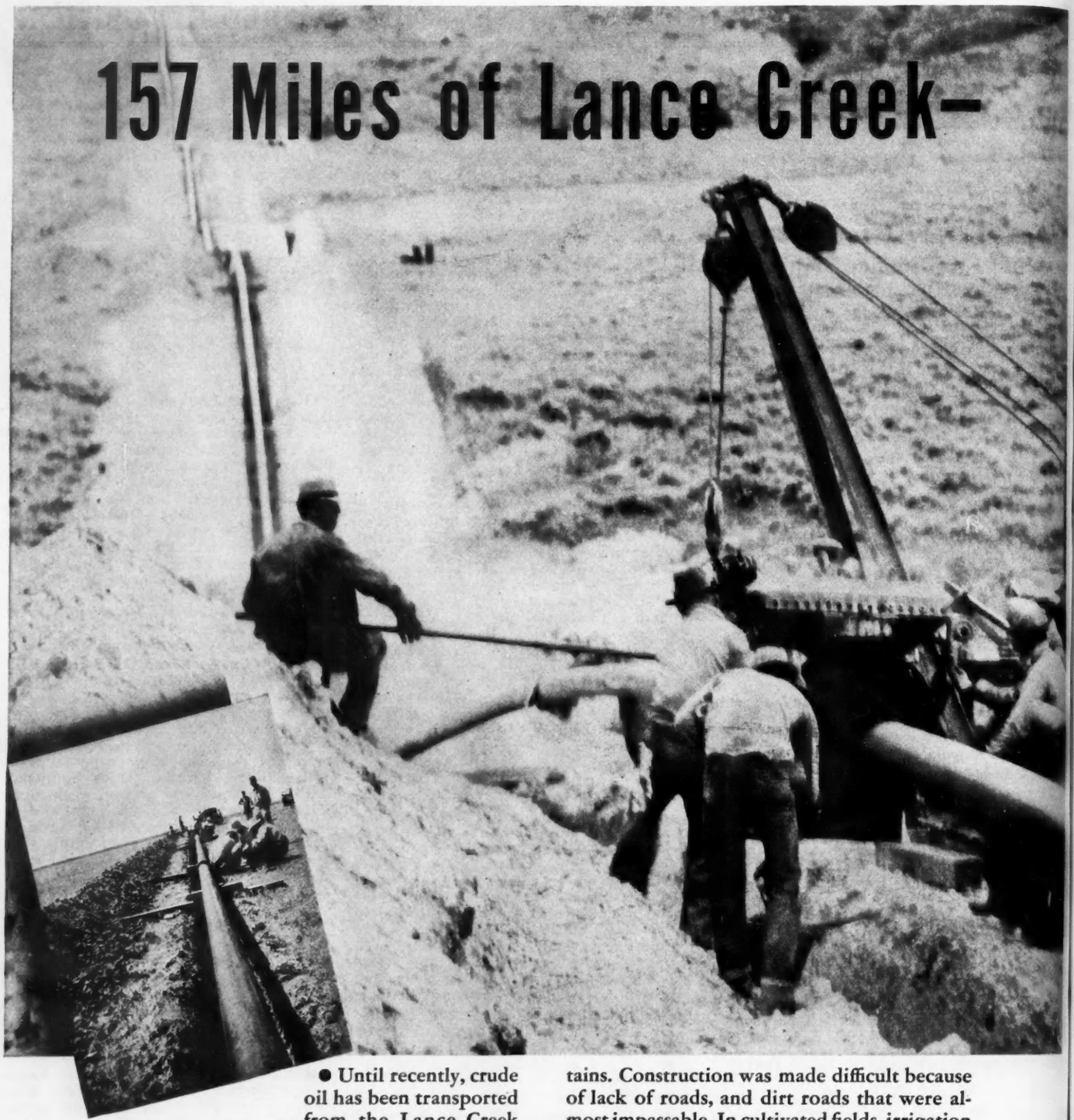
Gumbo Buster 4-inch Oil-Bath Swivel—Designed for shallow depth drilling and will successfully operate under a maximum load of 45 tons at 100 rpm. This swivel is similar in design to the larger Gumbo Buster swivels and is equipped with the same type straight roller thrust bearing. It is equipped with a hardened and ground wash pipe, automatic wash pipe packing, and a steel goose neck threaded for ground joint nipples. The bail is of ample size to carry the load and is provided with a sufficiently large radius at the loop to permit the use of any make hook.

Gumbo Buster Engine Skid Units—The two D-13000 Caterpillar engines and the Texrope Drive Rotating Elements are mounted on separate engine skid units of new design. The engine skid units are so constructed that they can be pushed apart or pulled together quickly and conveniently by means of heavy turnbuckles enclosed at each end of the skids in the heavy pipe. Each turnbuckle is operated by a split handwheel wrench. This construction provides a convenient method of tightening the compound belts and permits the engine skid units to be drawn together within an 8-foot width so that they can be moved as a single unit.

Rotating Elements—The Gumbo Buster Rig to be exhibited at Houston will be equipped with the latest type Allis-Chalmers Texrope Drive Rotating Elements. The rotating elements are equipped with friction clutches for rapid and smooth operation. The clutched pump drive sheave and the clutched compound sheave are mounted on tapered roller bearings to assure trouble-free operation. The shafts and the roller bearing shaft boxes are of ample size to safely transmit the desired horsepower.

REPRESENTATIVES: J. E. Rittersbacher, president; Edgar Rittersbacher,

157 Miles of Lance Creek—



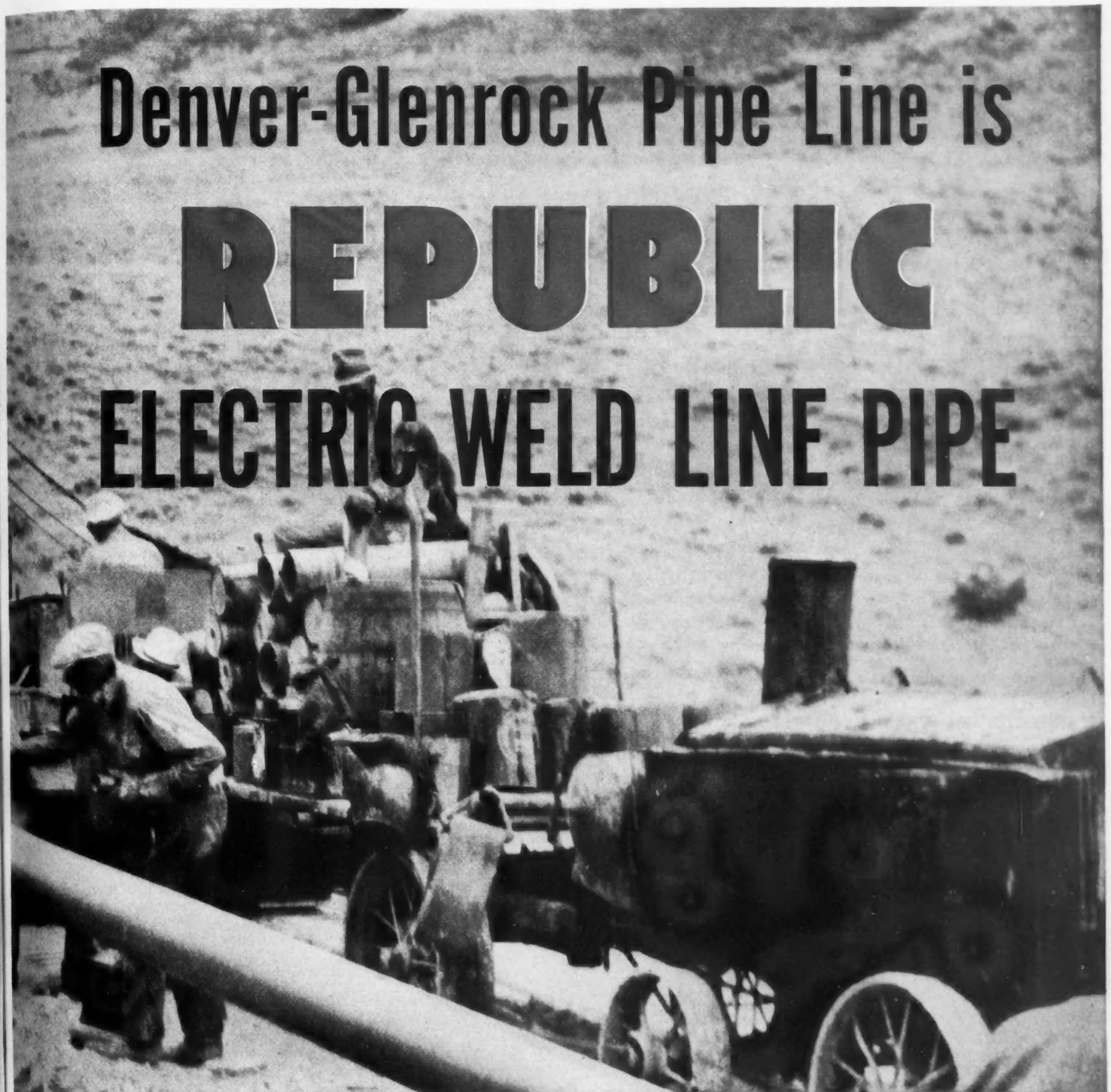
● Until recently, crude oil has been transported from the Lance Creek field, Wyoming, only by tank car. Now, a new pipe line carries crude to refineries at Glenrock and Denver. Republic Electric Weld Line Pipe was installed in 157 miles of this line.

Almost every conceivable type of country is traversed—flat table lands, valleys, mountains. Construction was made difficult because of lack of roads, and dirt roads that were almost impassable. In cultivated fields, irrigation ditches added to the difficulties. Many stream crossings were made and considerable blasting required in the rock formation. Elevations varied from 4100 feet to 6145 feet.

In such rugged terrain as this, the inherent qualities of Republic Electric Weld Line Pipe

REPUBLIC LINE

Denver-Glenrock Pipe Line is REPUBLIC ELECTRIC WELD LINE PIPE



that do much to speed construction are—long lengths—straightness—perfect roundness—uniform wall thickness—low-carbon weldability—ductility for easy bending—an electric resistance weld that tests stronger than the pipe wall itself.

Thousands of miles of Republic Electric Weld Line Pipe installed here and abroad testify to the ability of this universally-accepted line pipe to meet every test of construction and service.

REPUBLIC STEEL CORPORATION
GENERAL OFFICES: CLEVELAND, OHIO

UNION DRAWN STEEL DIVISION
BERGER MANUFACTURING DIVISION
NILES STEEL PRODUCTS DIVISION
TRUSCON STEEL COMPANY
STEEL AND TUBES, INC.

REG U S PAT OFF
REPUBLIC STEEL

PIPE

OTHER REPUBLIC PRODUCTS USED BY THE PETROLEUM INDUSTRY

Alloy and Carbon Steels — Wire Nails and Staples — Woven Wire Fencing, Barbed Wire and Steel Fence Posts — Upson Quality Headed and Threaded Products — ENDURO* Stainless and Heat-Resisting Steels — Toncan* Iron Culverts and Sectional Plate Pipe — Sheets, Light Plates and Roofing Products — Toncan Iron Enameling Stock (for service stations) — Truscon Standard Steel Buildings — Berley Steel Shelving, Bins and Lockers — Electrunite* Boiler and Condenser Tubes — Niles Steel Shipping Containers — Tin Plate

*Reg. U.S. Pat. Off.

vice president; L. R. Estes, secretary; Eliot Johnston; Carl M. Anderson, chief engineer; H. E. Redden, plant superintendent; Lee Fagg, field engineer salesman; Oscar C. Hohl, Houston district manager; Staley Kessinger, field service salesman; and Floyd (Shorty) Clift, field service salesman.

Buda Company
HARVEY, ILLINOIS

Buda Engine and Equipment Company
HOUSTON, TEXAS

Buda Engine Service of Tulsa
TULSA, OKLAHOMA
Booths 732, 736

EXHIBIT: Oil field jacks. Hydraulic jacks. Model 6-DH-1879 convertible natural gas-butane-gasoline full Diesel drilling engine. Model FRH oil well and pipe line pumping engine.

NEW PRODUCTS:

Buda Oil Field and Hydraulic Jacks—These jacks are designed to meet the specific requirements of the oil industry, and are available in a variety of sizes.

REPRESENTATIVES: From Buda Company—J. S. Dempsey, president; R. K. Mangan, vice president; E. D. Conant, superintendent; J. C. Baseheart, and R. H. Herberling. From Buda Engine and Equipment Company—A. R. Flournoy, president; W. H. Benduhn, vice president; T. J. Flournoy, West Texas manager; Walter Hanson, in charge of service; J. L. Joplin, and Kirk Rote. From Buda Engine Service of Tulsa—J. M. Cullens, president, and R. R. Sloan.

Goodall Rubber Company of Texas
HOUSTON, TEXAS
Booths 750, 752

EXHIBIT: Rotary hose. Barney couplings. Air, water, steam and grease hose. Newtype gasoline hose. Newtype Synplastic aviation hose.

NEW PRODUCTS:

Goodall Longlife Rotary Hose With Barney Couplings—The Barney Coupling, a streamlined, clampless and stemless rotary hose coupling, has no metal inside to cut and rupture the tube, no clamps to become loose, causing leaks, and can withstand high pressures.

REPRESENTATIVES: H. Barnard, president, and D. D. Cooper, vice president.

Hamner-Sitton Company
HOUSTON, TEXAS
Booth 1509

EXHIBIT: Removable boiler insulation. Removable pipe insulation. Gauge line wiper. Tank suction distributor.

NEW PRODUCTS:

Removable Boiler Insulation—This insulation incorporates the use of electric spot welding, which fastens reinforcements of sections, thereby replacing bolts and wires. The electric spot welding makes a durable section and simplifies the installing of the removable insulation sections when insulation is applied, and also simplifies the removal of the insulation after completion of the drilling operation.

Removable Pipe Insulation—This insulation has been improved by embodying in the section of a galvanized iron liner, which prevents the insulation material proper from coming in contact with the steam pipe. This galvanized iron liner is fastened to the outside galvanized iron sheathing in such a manner as to completely encase the insulating material. This feature prolongs the life of the pipe insulation and facilitates removal and re-application of the insulation.

Gauge Line Wiper—This new device removes oil residue from the line after a tank reading has been taken. According to the manufacturer, it eliminates kinking and breaking of gauge line resulting from usual cumbersome hand wiping. It contains the feature of directly attaching the plumb bob or weight to the frame of the line, thereby eliminating chances of breaking the gauge line by removing weight and strain from line when not in use.

Tank Suction Distributor—This new distributor is installed on the bleed lines of storage tanks to facilitate removal of water, basic sediment and paraffins from the bottom of tanks without allowing the oil to channel and be drained at the same time. It decreases the amount of time required to drain any residue from a storage tank.

REPRESENTATIVES: Leland Hamner, owner; S. A. Wolcott, salesman; A. Parrish, salesman, and Ivan Parrish, salesman.

Turco Products, Inc.
LOS ANGELES, CALIFORNIA
Booth 617

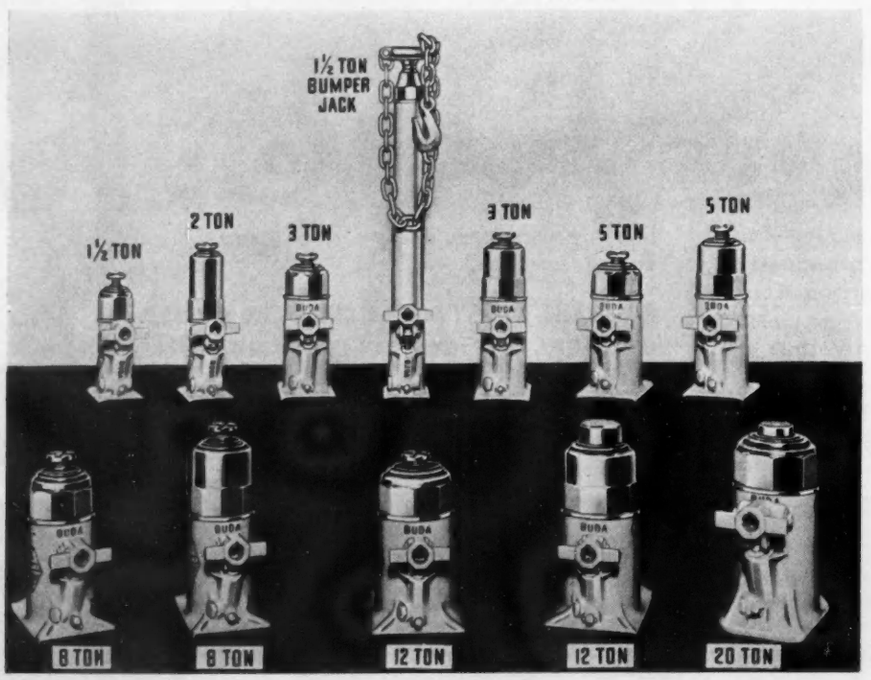
EXHIBIT: The following "Turco" products: Car shampoo unit. Car shampoo. Emulso. Emulso sprayer. Penetrol. Acryl. Railroad. Composition 57. De-scaler. Silisol. Petmusol. Vitol. Prosolv. Vapro. Composition 600. Kromfax. Cologar. Blu-fax. All the foregoing are specialized cleaning compounds and equipment.

NEW PRODUCTS:

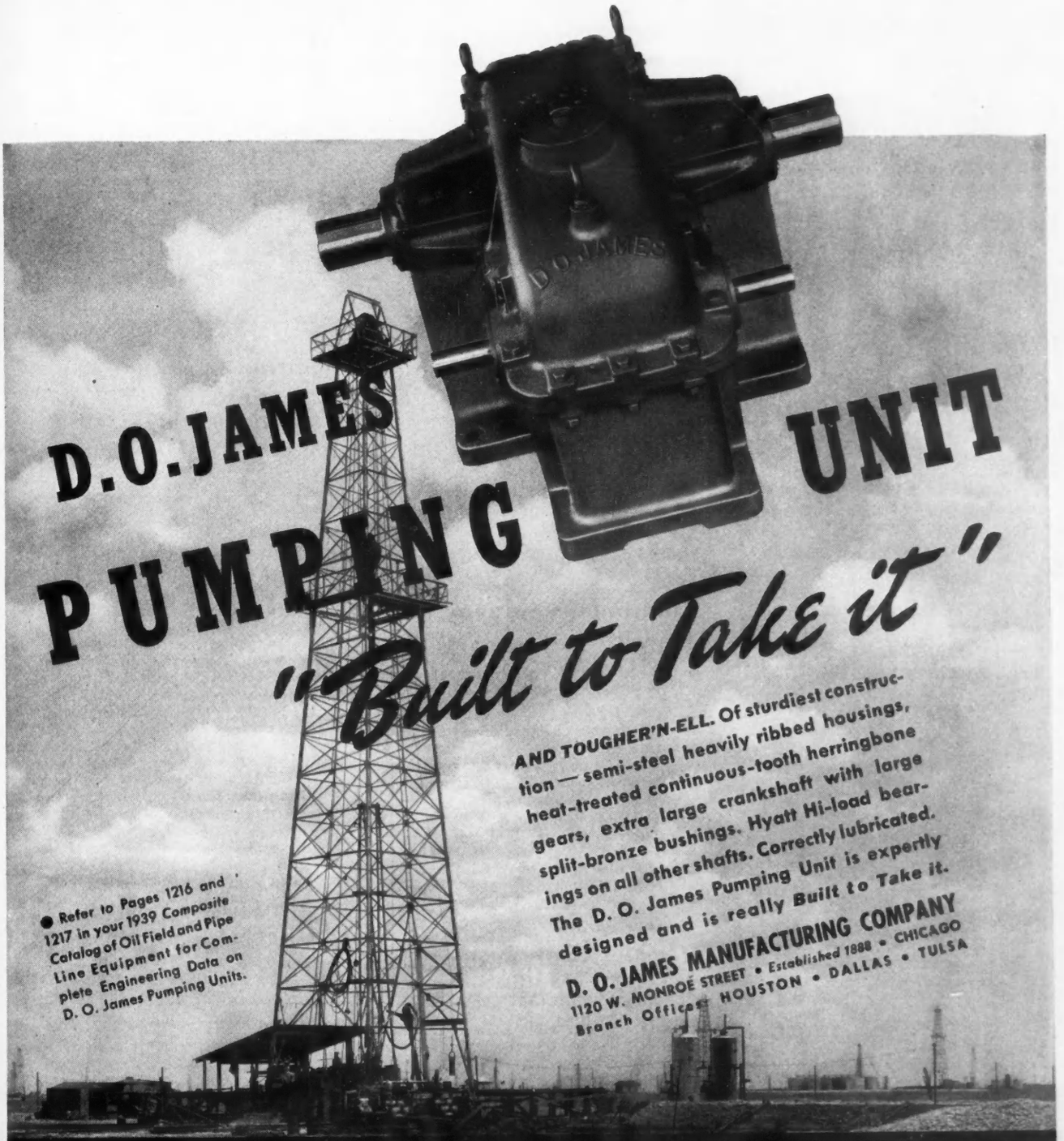
Turco Car Shampooing System—Among the innovations to be displayed by Turco will be a showing of the new Turco Car Shampooing System. It converts the old, laborious business of car washing to an easy, rapid, highly profitable procedure, the manufacturer claims.

The equipment consists of an ingenious, inexpensive patented device, the Turco Car Shampoo Unit, that may be described roughly as a 20-gallon steel tank equipped with a mixing chamber, air and water connections, hose and a most unique nozzle through which is delivered a foaming, penetrating mixture of air, water and "Car Shampoo" (Trade-Mark). This is a scientific liquid compound that penetrates, wets out and carries away the soil from auto bodies in a rich, high foam. It is not a soap, therefore it cannot deposit soap films. Being a neutral material it is noninjurious to auto finishes—absolutely safe on finely finished bodies.

REPRESENTATIVES: V. O. Poole, Texas district manager; Andy Ospring, salesman.



Buda Hydraulic Jacks


D.O.JAMES
D.O.JAMES
PUMPING UNIT
"Built to Take it"
AND TOUGHER'N-ELL. Of sturdiest construction — semi-steel heavily ribbed housings, heat-treated continuous-tooth herringbone gears, extra large crankshaft with large split-bronze bushings. Hyatt Hi-load bearings on all other shafts. Correctly lubricated. The D. O. James Pumping Unit is expertly designed and is really Built to Take it.
● Refer to Pages 1216 and 1217 in your 1939 Composite Catalog of Oil Field and Pipe Line Equipment for Complete Engineering Data on D. O. James Pumping Units.
D. O. JAMES MANUFACTURING COMPANY
1120 W. MONROE STREET • Established 1888 • CHICAGO
Branch Offices: HOUSTON • DALLAS • TULSA
FOR OVER FIFTY YEARS MAKERS OF EVERY TYPE OF SPEED REDUCER AND CUT GEAR

Egner Brothers
HOUSTON, TEXAS

Schramm, Inc.
WEST CHESTER, PA.

DeWalt Corporation
LANCASTER, PA.

Gordon Smith & Company
BOWLING GREEN, KY.

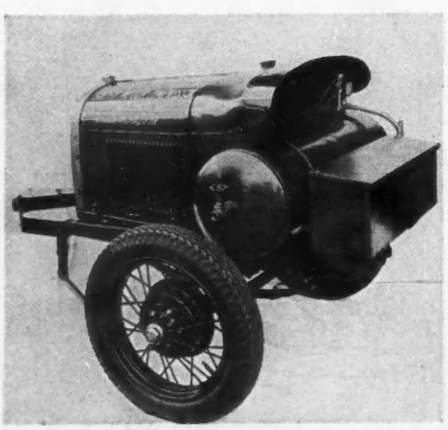
George Buvinghausen
HOUSTON, TEXAS

P. K. Lindsay & Company
Booths 151, 196

EXHIBIT: DeWalt combination woodworker. Wallace No. 1 radial saw. Several models Schramm portable and stationary air compressors. Pneumatic tools, etc. Sand blast machines. Light and high displacement gasoline driven air compressor units designed for spray painting, manufactured by P. K. Lindsay and Company. Electric hand saws, drills, etc. Gordon Smith air compressor unit.

NEW PRODUCTS:

Smith Motor Compressor—These complete, portable compressors are made with Model A and B Ford engines in different capacities. They are used for sand blasting, spray painting, operation of pneumatic tools, jetting water wells, etc.



Gordon Motor Compressor

REPRESENTATIVES: P. O. Egner, Pat O'Reilly, Ed Magnuson, and N. H. McClamroch, of Egner Brothers; H. W. Wharton, of Schramm, Inc.; Paul Gardner, DeWalt Corporation; George Buvinghausen, Houston, Texas.

Dayton Rubber Manufacturing Company
DAYTON, OHIO
Booths 1510, 1512

EXHIBIT: Dayton Cog-Belt drives. V-Belts. Pulleys.

NEW PRODUCTS:

Dayton Cog-Belt Drive—This cog-belt drive, for use on pumping units, centrifugal powers, compressors, slush pumps, generators and Diesel units, as well as auxiliary equipment in the field, has die-cut sides, giving the belt great gripping power. According to the manufacturer, it has long life and requires little adjustment due to the fact that Daytex cord has great strength, little stretch and great resistance to heat. The patented cogs close up when the belt goes around the pulley, and take up the compression on the inside of the belt.

REPRESENTATIVES: K. H. Glanton, vice president in charge of mechanical sales; T. C. Davis, sales manager, industrial division; E. P. Spore, district sales manager; L. K. Sherman, district representative, and R. H. Hohman, district representative.

Metal Goods Corporation
ST. LOUIS, MISSOURI

American Brass Company
WATERBURY, CONN.

Aluminum Company of America
PITTSBURGH, PA.
Booths 564, 664, 665

EXHIBIT: Stages in the fabrication of an Admiralty Condenser Tube and a Monel Condenser Tube. Centrifugally cast Monel pump liner. Centrifugally cast Ni-Resist pump liner. Muntz metal head plate. Aluminum pipe.

REPRESENTATIVES: Sam D. Hodgdon, district manager; Carl T. Wedemeyer, assistant district manager; R. J. Rice, foundry engineer; Gregg T. Harris; L. E. Fuller; C. J. McGuire; H. C. Riedel, and Edward Schwartz.

Dowell, Incorporated
TULSA, OKLAHOMA
Booths 151, 153

EXHIBIT: Dowell's complete line of acids for chemical treatment of oil and gas wells. Dowell blanket. Jelflake seal. Dowell solvents. Formation plugging. Dowmetal casing.

NEW PRODUCTS:

Jelflake Seal—A temporary plug used for selective acidizing.

Dowell Red Solvent—For use in removing accumulations with high asphaltic content.

Dowell Green Solvent—For unusual and peculiar types of paraffin found in specific areas.

Formation Plugging—A chemical method to exclude unwanted water and gas from wells.

Dowmetal Casing—A light-weight magnesium pipe for use in wells producing from two or more horizons.

REPRESENTATIVES: F. I. McConnell, assistant sales manager, Fort Worth; J. L. Coss, Tulsa; A. P. Beutel, president and treasurer, Midland, Michigan; N. R. Crawford, vice president and manager, Tulsa; J. G. Staudt, assistant manager, Tulsa; R. D. Shaw, sales manager, Tulsa; H. W. Ross, assistant sales manager, Tulsa; C. E. Mangold, district manager, Shreveport; C. T. Young, district manager, Houston; F. R. Holland, district manager, Stamford, Texas; W. J. Russell, district manager, Midland, Texas; J. H. Adkison, sales engineer, Tulsa; S. C. Morian, district engineer, Houston; E. R. Fritz, sales engineer, Shreveport; D. G. Hefley, research engineer, Tulsa; G. F. Williams, sales engineer, Tulsa; K. L. Flanders, sales engineer, Longview, Texas, and P. E. Fitzgerald, geologist, Tulsa.

Thornhill-Craver Company, Inc.
HOUSTON, TEXAS
Booths 445, 447

EXHIBIT: Unibolt couplings. High-pressure steel Christmas tree fittings. Adjustable and positive chokes. Flexible ball joints.

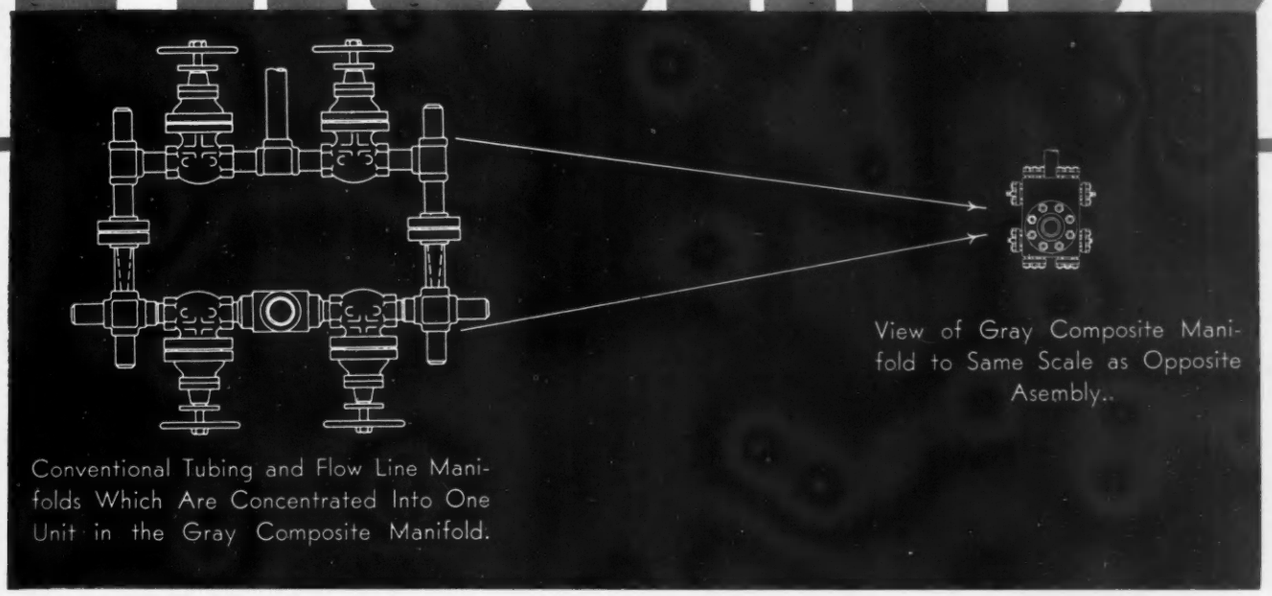
NEW PRODUCTS:

Unibolt High Pressure Christmas Tree Fittings—A series of shelves of standard Unibolt design is cast integral with body of fitting to accommodate mating tapered shelves in nut member, these two members being drawn together by a single bolt to effect a positive, leak-proof seal. A blanking plug is used with Unibolt fittings instead of a conventional bull plug. Like the plain hub of a Unibolt steel coupling, this blanking plug is grooved for a metal seal ring to provide a safe seal between the blanking plug and body of the fitting. Constant removal of the blanking plug for changing chokes will not lessen its sealing efficiency. These fittings and blanking plugs expedite taking of bottom-hole pressure, running bottom-hole chokes or paraffin scrapers, and killing the well in an emergency. All types and sizes are made in 6000 pounds test. Most sizes are also available in 10,000 pounds test.

Unibolt High Pressure Christmas Tree Fittings

Unibolt Adjustable and Positive Chokes—According to the manufacturer, these chokes offer safety, ease of operation and great accuracy in controlling well flow. A series of shelves, cast integral with choke body, are engaged by identical shelves in the holding member. One bolt draws these self-locking tapered shelves together, applying tremendous equalized pressure on the metal seal rings. The lower end of the yoke member acts as a pilot to guide the needle point accurately to center of the orifice. Fluid flows evenly

PROGRESS



Conventional Tubing and Flow Line Manifolds Which Are Concentrated Into One Unit in the Gray Composite Manifold.

View of Gray Composite Manifold to Same Scale as Opposite Asembly..

GRAY SYSTEMS OF WELL CONTROL

are the result of a policy of continuous improvement in design and manufacture.

GRAY SYSTEMS OF WELL CONTROL

AMONG THE OUTSTANDING ACCOMPLISHMENTS ARE:

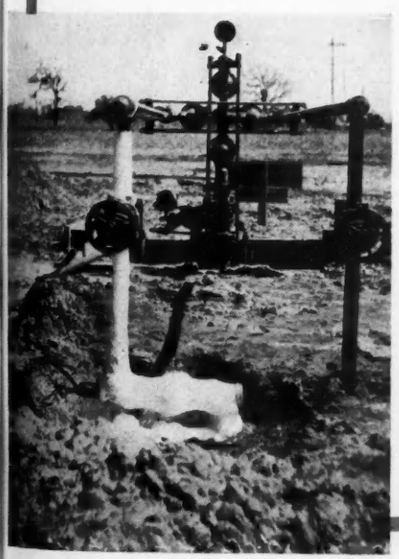
1. GRAY VALVE REMOVAL UNDER EQUALIZED PRESSURE

2. GRAY COMPOSITE MANIFOLD: A Christmas Tree and a Flow Line Manifold **all in one.**

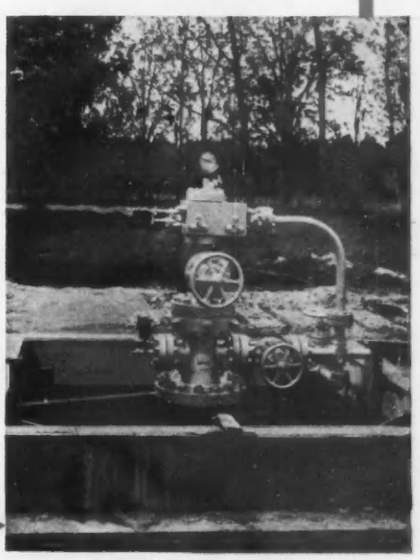
Both are units in GRAY SYSTEMS OF WELL CONTROL

●

SEE DEMONSTRATED
at the
OIL-WORLD EXPOSITION
HOUSTON, APRIL 24 - 29



Conventional Christmas Tree

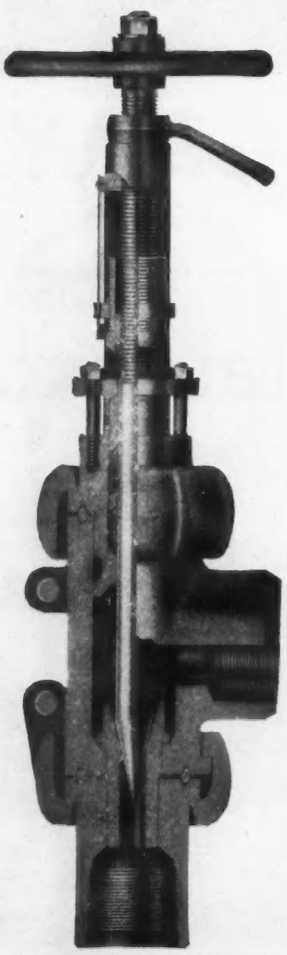


Concentrated Control with Gray Composite Manifold

GRAY
TOOL COMPANY
HOUSTON – TEXAS

Positive Type Choke

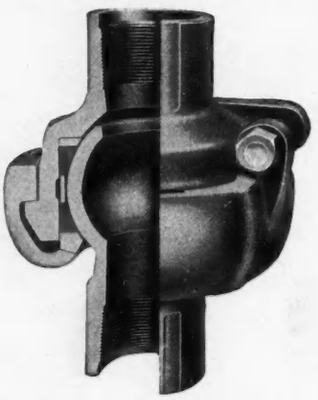
around needle, minimizing turbulence. Accurate centering of needle results in uniform wear on needle and seat. All parts are machined to micrometer precision. The Adjustable Choke is quickly and easily convertible into a Positive Type Choke, all parts being interchangeable. By releasing the one bolt on the coupling between choke body and bonnet assembly, the entire bonnet



Adjustable Type Choke

assembly may be removed. A positive type bean interchanges with the stem seat, and a blanking plug and nut replaces the bonnet assembly. The blanking plug allows quick, easy changing of the flow bean and eliminates threaded or flanged connections. All sizes made in 6000 pounds test. Two-inch size available in 10,000 pounds test.

Unibolt Flexible Ball Joint—This ball joint utilizes the Unibolt coupling principle to eliminate both threaded and flanged coupling members. Tapered interlocking shelves between the lug hub member and nut member are drawn together by a single bolt to compress packing around the ball member. There are no threads between the component



Unibolt Flexible Ball Joint

parts of the joint to gall or freeze. The joint may be tightened or broken out quickly after long periods of service. All parts for a given size are interchangeable. Recommended for use on high-pressure steam lines, boiler headers, mud lines, and conveyors of oil, water, gas, gasoline and air which are subject to contraction or expansion. 4000 pounds test, 500 pounds steam working pressure. (1½-inch size, 6000 pounds test; 6-inch size, 2500 pounds test.)

REPRESENTATIVES: R. S. Warren, T. W. Walker, Jack Howe, Homer Thornhill, Kenneth Craver, and Forrest Ledlow.

Edgar Tobin Aerial Surveys

SAN ANTONIO, TEXAS
Booths 157, 159, 161

EXHIBIT: A photographic display will illustrate the major steps in the production of controlled aerial photographic maps, and the ownership maps and regional correlation maps developed from the aerial photographic base. Also illustrated will be principal applications of the several types of mapping in various phases of production operations.

REPRESENTATIVES: Edgar Tobin, James Atkinson, Mrs. Emly Atkinson, George Rice, Fred Wohn, and R. H. Holland.

Bridgeport Machine Company

WICHITA, KANSAS
Booths 1010-B, 1015

EXHIBIT: Bridgeport-Pratt portable oil treater. Bridgeport single drum well servicing unit. Double drum well servicing unit. Reverse clutch. Model FC-200 TDLS, Model G, rotary drilling rig. Pumping unit. Complete display of Gumbo Buster rotary drilling machinery.

NEW PRODUCTS:

All the above equipment has been developed during the past two years and has not been demonstrated in an oil show previously. Most of the equipment will be rigged up and in operation.

REPRESENTATIVES: B. B. Root, vice president and general manager; L. A. Babb, vice president and sales manager; F. K. Blauvelt, vice president and plant manager; I. C. Lawless, publicity director; B. V. Brown, assistant sales manager; J. W. Wiley, chief engineer; Fred Parks, manager of stores; W. H. Turnage, Houston manager, and E. H. Butler, Houston sales representative.

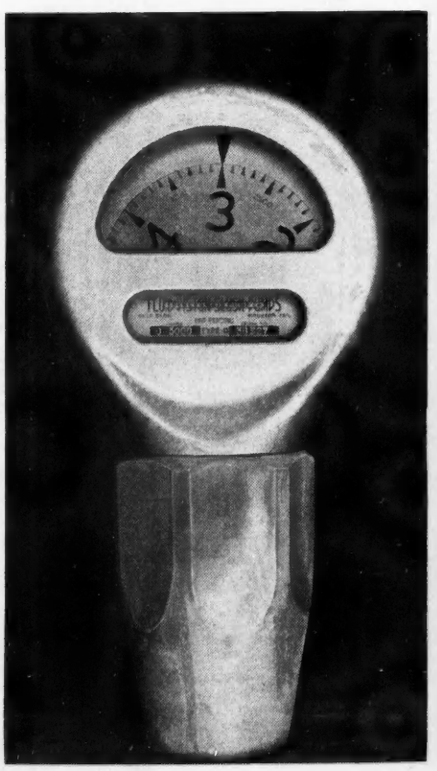
Abercrombie Pump Company

HOUSTON, TEXAS
Booths 604, 705

EXHIBIT: Fluid-Piston slush pump, size 16¼ x 7¼ x 20 inches. Type "D" Abercrombie pressure gauges in various pressure ranges. Shear relief valves for water, oil and gas service in sizes from 1¼ to 3 inches, and pressure ranges 250 pounds to 2750 pounds. Type "D" (straight flow) shear relief valves for high pressure gas service. "Conoco" ball check valves for water, oil and gas.

NEW PRODUCTS:

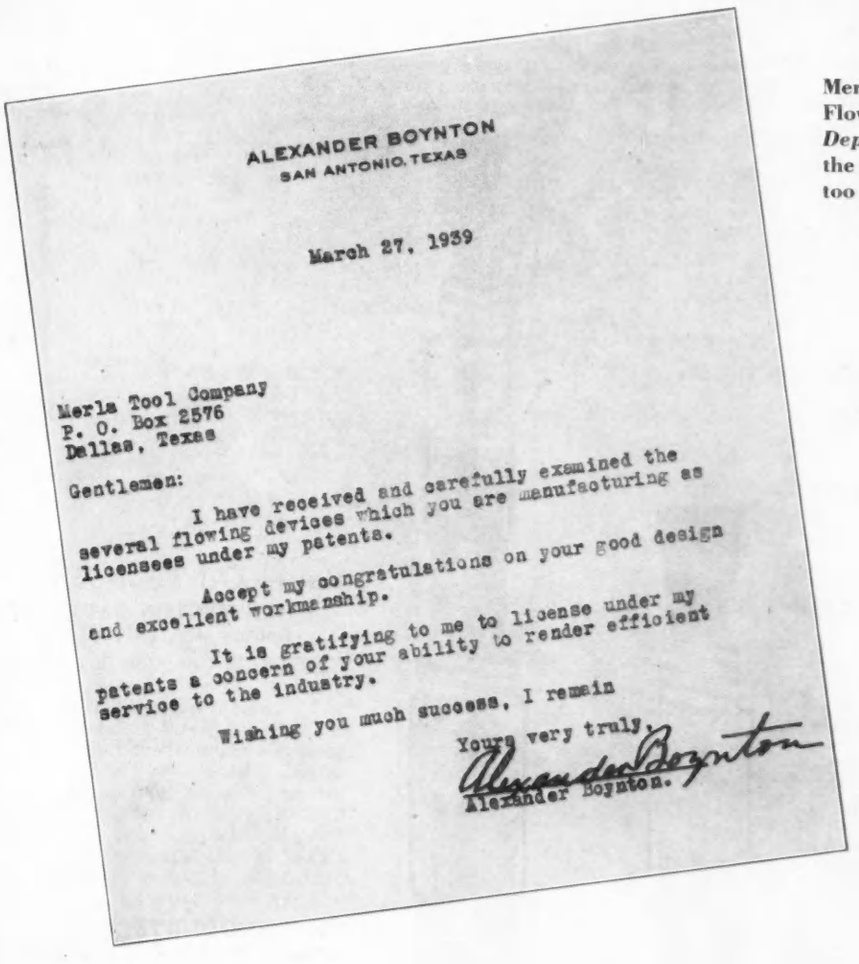
Type "D" Abercrombie Pressure Gauge—According to the manufacturer, this gauge is built on an entirely new principle, employs no Bourdon Tube, and the movement operates on ball bearings submerged in oil. Pump pulsations and external vibration are damped out over entire pressure range without adjustment. Large scale figures and divisions give long-distance visibility. Liquid in line cannot enter gauge unit. Pressure ranges available 0-1000



Type "D" Abercrombie Pressure Gauge

MERLA FLOW VALVES

Licensed Under Boynton Patents



ALEXANDER BOYNTON
SAN ANTONIO, TEXAS

March 27, 1939

Merla Tool Company
P. O. Box 2576
Dallas, Texas

Gentlemen:

I have received and carefully examined the several flowing devices which you are manufacturing as licensees under my patents.

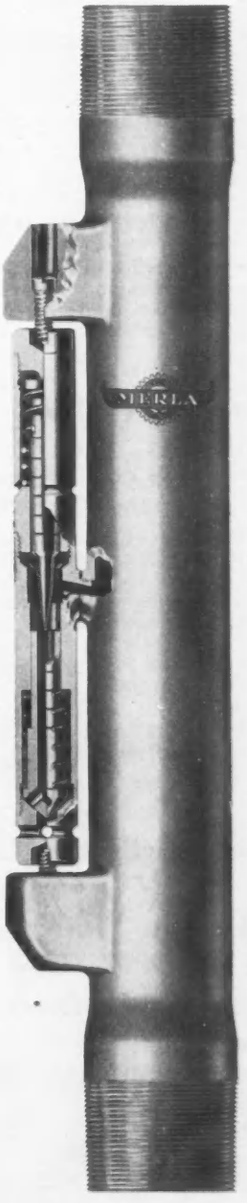
Accept my congratulations on your good design and excellent workmanship.

It is gratifying to me to license under my patents a concern of your ability to render efficient service to the industry.

Wishing you much success, I remain

Yours very truly,
Alexander Boynton.
Alexander Boynton.

Merla Flow Valves Economically Flow Wells from *"Completion to Depletion."* Even those wells where the water content makes pumping too costly.



Illustrated is a "Type A" Merla Tubing Flow Valve—one of several types, available for varying well characteristics. Other Merla equipment of advanced design being Intermitters, Hook Wall Packers, Liner Packers, Standing Valves, Insert Pump Anchors and High Pressure Check Valves.

The above letter from Mr. Boynton is assurance of full protection to users of Merla Flow Valves.

This licensing arrangement with Mr. Boynton is further demonstration of our policy of maintaining sound leadership in Merla Equipment and Merla Service. Merla Valves are further protected by our own patents and patents pending.

If you are seeking economical production costs you will find most interesting the facts about Merla Flow Valves and other Merla Equipment, and case histories of Merla installations, all of which will be promptly supplied upon request.

MERLA TOOL CO.

Manufacturers of Improved Oil Well Equipment

P. O. BOX 2576 **DALLAS, TEXAS**

There is a Merla Representative in Your Vicinity

EXPORT SALES OFFICE: Acme Well Supply Co., 136 Liberty Street, New York, N. Y., U. S. A.

pounds, 0-3000 pounds, 0-5000 pounds, 0-150 atmospheres.

Type "E" (Straight Flow) Shear Relief Valve—This relief valve is designed for high pressure gas service, 2800 to 6800 pounds per square inch. The inlet and outlet are in line on this valve, and the resulting straight flow eliminates any side reaction where the nail shears and releases the pressure. To reset the valve, the piston is pushed back in the bore and a new nail inserted. A choke plug is incorporated on the inlet side of the valve to control the flow. Bodies are furnished with either welding hubs or flanges.

"Conoco" Ball Check Valves—These valves are used in high pressure gasoline plants, pressure maintenance systems, gas recycling systems, high pressure gas field lines, etc. They have an 8000-pound test cast steel body, A.P.I. Series 1500 ring-joint flanges, and a renewable seat and cage. They are furnished with A.P.I. Series 1500 ring-joint companion flanges of either the threaded, welding neck, or slip-on types.

REPRESENTATIVES: R. B. (Burch) Loggins, sales and service; J. A. Tennant, Jr., sales, and Madden T. Works, assistant engineer.

National Carbon Company, Inc.

CLEVELAND, OHIO
Booths 109, 111, 113, 115

EXHIBIT: Carbon tower sections, carbon Raschig rings for tower packing, carbon brick and tile, and application of these materials to various forms of construction. Carbon ground rods available in 2, 4 and 6-inch diameters by 80 inches long, designed for the cathodic protection of pipe lines.

REPRESENTATIVES: H. H. Frasch; S. A. Mattison; M. J. Dorcas; and G. H. Mayer, Jr.

Ace Distributing Company

HOUSTON, TEXAS

Feigelson Trailer Company

BEAUMONT, TEXAS

F. A. B. Manfaucturing Company

OAKLAND, CALIFORNIA
Booth 1009-B

EXHIBIT: Fabco tandem drive unit mounted on Ford chassis.

REPRESENTATIVES: H. D. Graf, Sam Camp, Al Stratton, and Julius Feigelson.

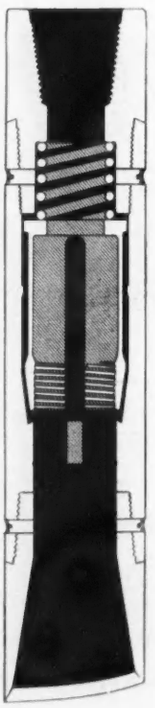
Houston Engineers, Inc.

HOUSTON, TEXAS
Booths 141-C, 141-D

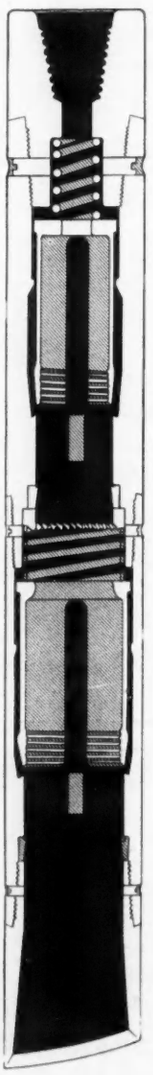
EXHIBIT: H-E Edwards reversing tool service. Edwards releasing rotating overshot. Edwards releasing rotating spear. Edwards releasing cut and pull casing cutter. Edwards improved thread for oil well fishing taps. Edwards formation tester.

NEW PRODUCTS:

H-E Edwards Rotating and Releasing Overshot—This tool employs a powerful spring which secures constant position of the slip. The body and bowl are combined into a single part. One-piece slip is constructed from a special alloy steel. These provide the following features: catch tool joints or pipe; mill jagged pipe; packoff and circulate fish; release—three ways; rotate fish; jar with strain up; spud for hydraulic ram effect; one-piece slips; Min. outside diameters; Min. overall lengths; full size bore for cutter or shot; and tool joint box connections to match D. P. The Type "A" (single bowl) overshot is designed to catch either tool joint or pipe by changing slip only. The Type "DB" (double bowl) overshot is designed to catch either tool joint or pipe with a single tool.



Edwards Type "A" Overshot



Edwards Type "DB" Overshot

H-E Edwards Releasing Spear—The one-piece slip of this device is slotted in four places to correspond with four releasing keys which are milled on the mandrel. When slots are meshed with keys, tool is in gripping position. A powerful spring assures constant position of slip. To release, weight is set down, pushing mandrel out of slip taper and making one-eighth of a turn either way, which places keys under slip. Pickup releases wickers from fish.

REPRESENTATIVES: Charles R. Edwards, president; J. A. Dormant, vice president; R. M. Claypool, manager, and D. M. Best, petroleum engineer.

H-E Edwards Releasing Spear

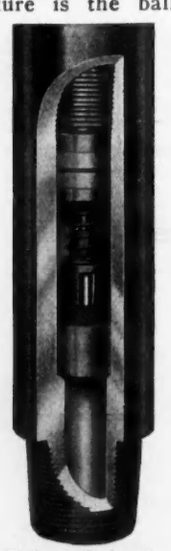
Baker Oil Tools, Inc.

HUNTINGTON PARK, CALIF.
Booths 100, 101, 102, 201

EXHIBIT: Complete line of Baker cement equipment for guiding, floating and cementing operations. Cement Hook-Ups. Metal Petal baskets. Baker rotary wall scraper. Baker rotary wall sampler. Baker hydraulic core extractor and testing pump. Baker portable hydraulic kelly straightener. Baker Bakwik Model "B" drill pipe float. Baker Model K cement retainer. Demonstration of Baker cement wash-down whirler float shoe.

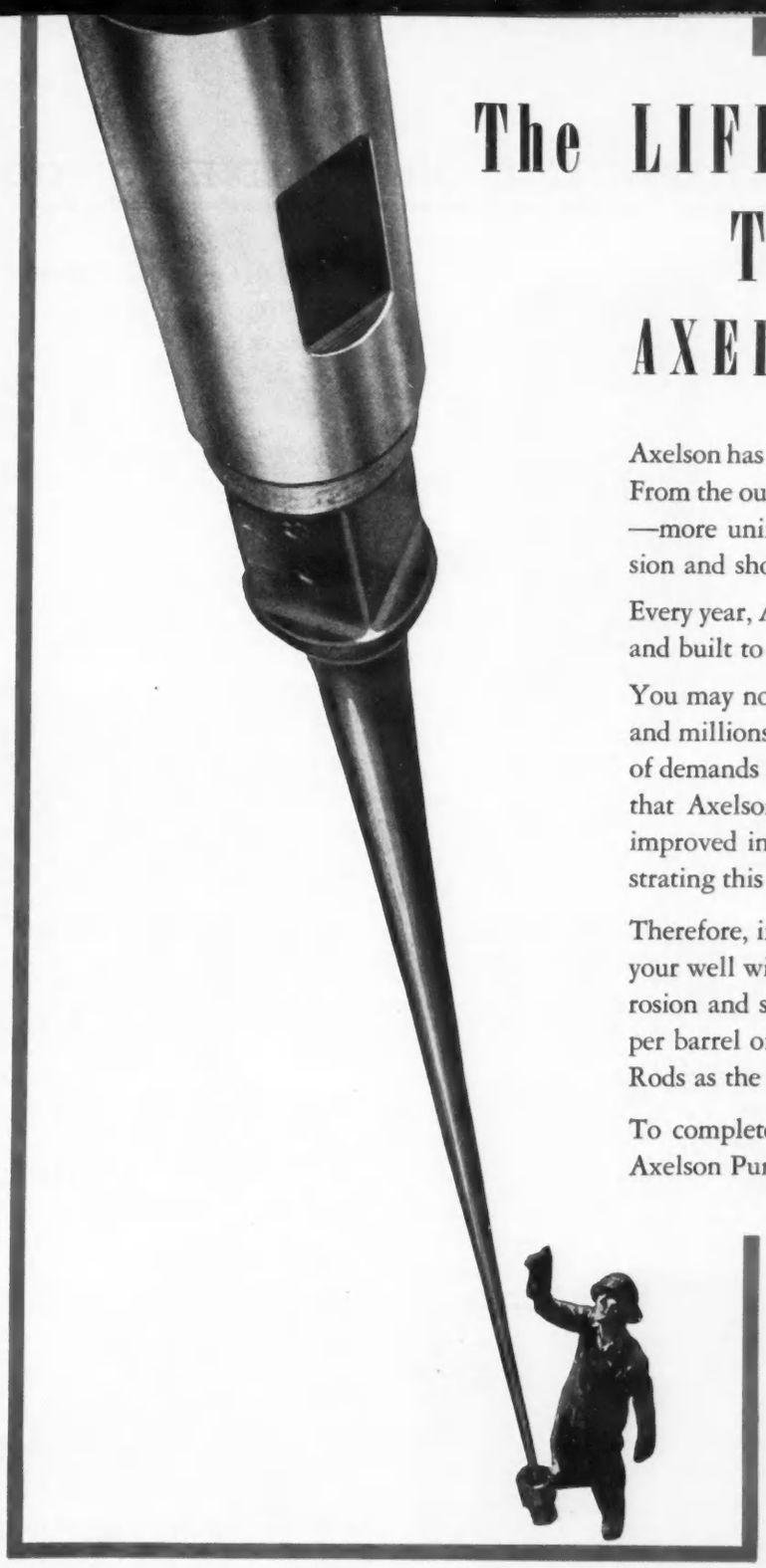
NEW PRODUCTS:

Baker Model K Cement Retainer—A cutaway model will demonstrate the new hydraulic tripping principle which eliminates the use of a separate tripping assembly. Another important feature is the ball back-pressure valve



Baker Bakwik Model B Drill Pipe Float

Baker Model K Cement Retainer



The LIFELINE OF POWER TO YOUR PUMP

AXELSON SUCKER RODS

Axelson has been making Sucker Rods for more than forty years. From the outset, every year brought demands for more strength —more uniformity in the string—greater resistance to corrosion and shock.

Every year, Axelson not only met but anticipated these demands and built to them.

You may not be concerned with the thousands of experiments and millions of tests that Axelson made in order to keep ahead of demands from the fields, but you *are* concerned with the fact that Axelson Sucker Rods have been vastly and consistently improved in life and working ability and are actually demonstrating this improvement under field working conditions.

Therefore, if you want a string of Sucker Rods that will pump your well with the least trouble—the greatest resistance to corrosion and shock—the longest life and finally the lowest cost per barrel of oil on the ground—you will use Axelson Sucker Rods as the *lifeline* of power to your pump.

To complete the economy combination you will also use an Axelson Pump, fitted exactly to your well conditions.

AXELSON

SELLS AND *SERVICES*

DEEP WELL PLUNGER PUMPS AND SUCKER RODS

SEVENTY-FOUR manufacturing operations are required in the making of Axelson Sucker Rods. Every operation has a hard-boiled purpose—namely—increasing the usefulness and life of the string. Careful control of all operations results in uniformly high quality.

AXELSON MANUFACTURING CO.

P.O. Box 98, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa • Mid-Continent and Eastern Distributor: Frick-Reid Supply Corp. Rocky Mountain Distributor: Great Northern Tool & Supply Co. • Foreign Representatives: "COSMOS" Soc. in Nume Colectiv, Bucharest, Roumania • Direct Factory Representative, Bucharest, Roumania • Industrial Agencies, Ltd., San Fernando, Trinidad, British West Indies • Factory Representative, Maracaibo, Venezuela • Armco International Corp., Buenos Aires, Argentina

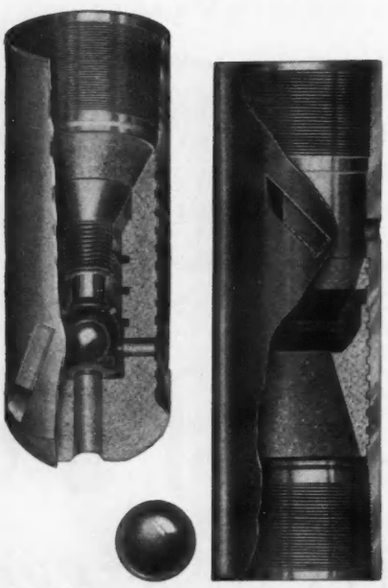
WRITE TODAY—

If you *are* concerned about the "how" and "why" Axelson Sucker Rods have won the preference of economy-minded operators in every oil field in the world, you will find the answers in this 56-page fully illustrated booklet that will be sent free on your request.

which provides an immediate and positive valve closure following the setting of the retainer. A large scale drawing will illustrate the setting procedure and use of this tool for cementing operations and as a bridge plug.

Baker Bakwik Model "B" Drill Pipe Float—The newly designed straight bore body contains a valve assembly which is constructed entirely without threads, the assembly being dropped into place in the "float joint" or body. No wrenches or special tools are required. Thus, when an unrestricted passage through the float joint body is desired, the valve assembly can be lifted out by hand, without difficulty or loss of time.

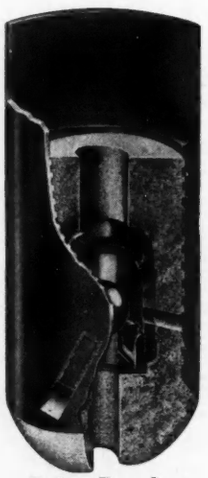
Baker Duplex Cement Guiding, Floating and Cementing Equipment—This new line includes various types of shoes and collars for performing two-stage cementing jobs, and for the lower two jobs in a series cementing operation; for cementing liners, combination strings and oil strings, either at the shoe or up the pipe; and for single cement jobs requiring high pressure.



Baker Duplex Cement Guiding, Floating and Cementing Equipment

Baker Regular Cement Wash-Down Whirler Float Shoe — A model will demonstrate how this shoe facilitates the running of casing into a hole where bridges or other formation obstructions may be encountered. It can be used to wash formations preparatory to cementing, and insures the best possible encasement of the pipe with a uniform body of cement. Fluid pumped down through the shoe and out the wash-down whirler side ports, is directed downward at an angle sufficient to produce a whirling motion. When bridges are encountered while running-in, the hydraulicking or jetting action washes away the sides of the bridge.

REPRESENTATIVES: T. Sutter, general manager; C. E. Burt, chief engineer; G. M. Anderson, W. E. Routt, W. H. Griffin, J. H. Grubb, sales engineers; C. E. Whitney, manager Houston division; W. A. Davis, manager Houston district; W. T. Crowder, R. S. Kail, petroleum engineers.



Baker Regular Cement Wash-Down Whirler Float Shoe

Towmotor Company

CLEVELAND, OHIO

Booths 1579, 1581 Annex

EXHIBIT: Towmotor fork truck — Model L.

NEW PRODUCTS:

Towmotor Fork Truck—Model L—Model L Towmotor fork lift truck combines heavy-duty capacity, safety, speed, small overall dimensions, and easy control. Straight gasoline powered for 24-hour service at peak capacity in factories, warehouses, terminals, and waterfront cargo handling.

Model L Towmotor Fork Lift Truck

Hydraulic lift and tilt. Special frame design. Seated center control. Front wheel drive, two-wheel steer at rear, pioneered by Towmotor. Same speed in reverse as forward high.

REPRESENTATIVES: C. G. Forshey, district sales manager; Edward G. Fournier, assistant sales manager; Dan Wessman, factory service representative; Edward Southworth, assistant sales manager.

C-O-Two Fire Equipment Company

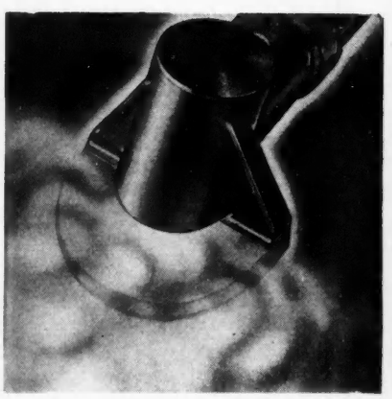
NEWARK, NEW JERSEY

Booth 501

EXHIBIT: C-O-Two carbon dioxide portable extinguishers, in 2-, 7-, 10-, 15-, 20-, 50-, 75- and 100-pound sizes. C-O-Two carbon dioxide systems (manual and automatic).

NEW PRODUCTS:

Baffle Type Nozzles—New and improved C-O-Two baffle type nozzles, providing a non-turbulent distribution of gas from C-O-Two carbon dioxide fire extinguishing systems have been



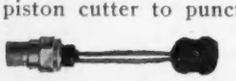
C-O-Two Baffle Type Nozzle

developed by the company. These new nozzles reduce the velocity and pressure of the discharge and permit rapid expansion and non-violent penetration of the gas throughout the entire protected area. They are compact and do not require a protruding horn or metal enclosure which might become damaged or knocked off.

"Fire-Eye" Detector — Unlike other detectors, the C-O-Two "Fire-Eye" is a dual operating device, operating on both the "fixed temperature" and "rate of rise" principles. It guarantees the quickest possible detection of the fast-burning fire and the positive though slower detection of the slow-spreading fire. The "Fire-Eye" is sealed in a copper shell, insuring permanent operation without further adjustments.

C-O-Two Fire-Eye Detector

Discharge Plug—The C-O-Two electric discharge plug is a simple and positive method of providing pressure on a piston cutter to puncture the cylinder sealing disc and release the gas. This hermetically sealed, tamper-proof, non-deteriorating plug is good until used. Thorough tests, including submersion in strong brine, prove its dependability under all operating conditions. It may be operated



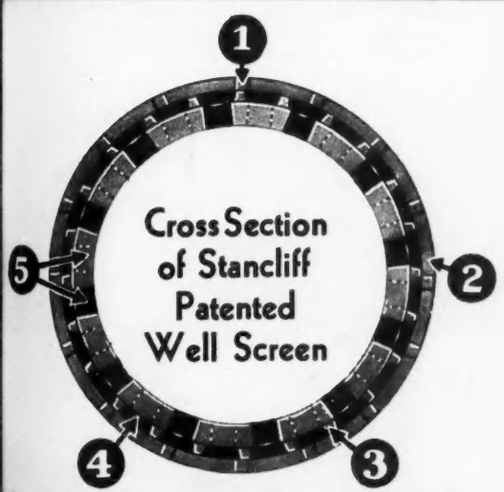
C-O-Two Discharge Plug

MILLIONS OF BARRELS of OIL

Free from Sand

are being produced each year through

STANCLIFF WELL SCREEN



ADVANTAGES IN DESIGN AND CONSTRUCTION . . .

1. Full depth, full width spacing lugs rolled into the square wrapping wire make the gauge and maintain it.

The lugs space the wire at the top and at the bottom of the wire. The square wire helps to resist a change in gauge from abrasion and corrosion.

2. Wire wrapping. Galvanized Steel, Brass, Bronze, Admiralty, and Stainless Steel Wire, can be furnished.

3. Ribs are laid on the outside of the pipe, and are of the same metal as the wrapping wire.

4. Flow channels are formed by the ribs to increase screening efficiency and reduce fluid velocity with the consequent minimizing of sand cutting. This construction makes the STANCLIFF SCREEN easy to clean.

5. Perforations in the pipe are staggered with one row of holes under each flow channel.

See display at the OIL-WORLD EXPOSITION, April 24-29

HOWARD SMITH COMPANY

1201 SAWYER STREET HOUSTON, TEXAS, U.S.A. P. O. BOX 688

EXPORT REPRESENTATIVE: ACME WELL SUPPLY CO., 136 LIBERTY ST., NEW YORK, N. Y.

by any current source, either A.C. or D.C., from 6 volts up.

C-O-Two Circuit Testing Unit

Circuit Testing Unit — This unit, in a vaporproof box with push button and green indicating test lamp, permits a complete test of the system wiring circuit including electric discharge plugs at any time. Simply press the push button which lights the green lamp, indicating that power is on and the system is ready for operation.

REPRESENTATIVES: J. P. Maloney, general field sales manager; W. L. Ferrier, Chicago manager; B. S. Allen, Dan Butler, B. F. Covington, sales representatives.

Smith Meter Company

LOS ANGELES, CALIFORNIA and MILWAUKEE, WISCONSIN

Booth 1562

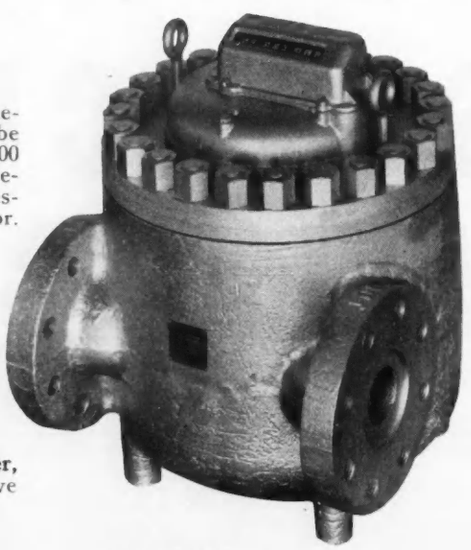
EXHIBIT: Refinery and pipe line meters. Gasoline bulk plant meters. Lube oil meters. Tank truck meters. 200 g.p.m., 1000-pound high pressure meter. 1000 g.p.m., 1000-pound high pressure meter with temperature corrector. Butane meters for tank trucks. Butane meters for dispensing units. Butane meter for refineries. Meter with new super figure counter. Tank truck meter with quantity set stop. Bulk plant meter with quantity set stop. Smith valves. Smith strainers. Smith meter air eliminators.

NEW PRODUCTS:

Smith Butane & Propane Meter, Model BU-40 1¼-Inch—This positive displacement meter, which is especially designed and built for the butane industry, incorporates the Smith Rotary Principle (patented). There are no "rubbing parts"—no valves, no pistons —in Smith Butane Meters. The internal rotary unit runs on sealed ball bearings, assuring long life. Therefore, wear is practically eliminated and the meters remain accurate to 1/10 of 1 percent over the entire flow range from 4 to 50 g.p.m. over long periods without necessity for recalibration. They are built of special steels to withstand mild corrosion, and are tested for 250 pounds working pressure. Smith butane meters meet the Butane Code requirements.

Smith High Pressure Meters, Models "D" and "M"—The company (subsidiary of A. O. Smith Corporation) recently announced the broadening of its line of high pressure meters to include all sizes from 2 to 6-inch, with maximum capacities from 100 to 1000 g.p.m. All sizes are available for 500 and 1000 pounds working pressures.

The redesigned Smith high pressure meters are the result of extensive field and laboratory research. They operate



Smith High Pressure Meter

Smith Butane and Propane Meter

with a minimum of pressure differential. For example, the 6-inch meter in actual operation at 600 g.p.m. shows approximately 2 pounds pressure drop across the meter.

The meters are designed and built especially for pipe line and refinery requirements. They can be furnished with an automatic temperature corrector if desired.

These high pressure meters have a safety feature which is an innovation in the high pressure meter field. A built-in differential pressure valve automatically opens whenever the pressure on the inlet side of the meter is more than 20 pounds greater than the pressure on the outlet side. Should any foreign substance, by chance, get in the meter and jam it, this valve will automatically operate.

Super Numeral Counter—This latest development of the meter industry will be shown for the first time at the Houston Oil Show. The extra large direct reading numerals give a degree of visibility impossible to obtain with other types of meter counters. The figures are over three times as large as those used on the regular Smith vertical dials.

These large numerals can be reset for each delivery. However, a 100,000,000 gallon non-reset totalizer is also incorporated in the design so that a complete total of all liquid metered is constantly available. By developing these large numeral counters, the company has made it possible to speed up deliveries through better visibility. Smith super size numeral counters are available on all Smith meters and also can be purchased for meters now in service.

REPRESENTATIVES: Allen A. Floyd, president; C. E. Valentine, Jr., regional sales manager; E. F. Eckel, chief sales engineer; G. O. Tate, Tulsa manager; R. N. Ward, Houston manager; T. M. Penny, Denver manager.

The Brown Instrument Company

PHILADELPHIA, PENNSYLVANIA

Booth 755

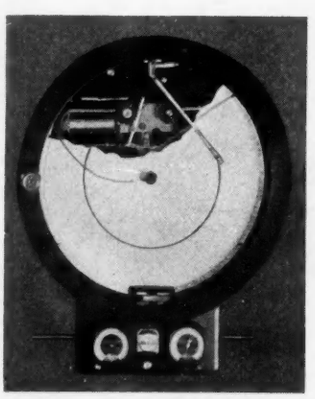
EXHIBIT: Brown pneumatic remote transmission system. Brown multiple recording potentiometer pyrometer. Brown "Air-o-Line" controller. Brown recording electric flow meter. Brown indicating mechanical flow meter.

NEW PRODUCTS:

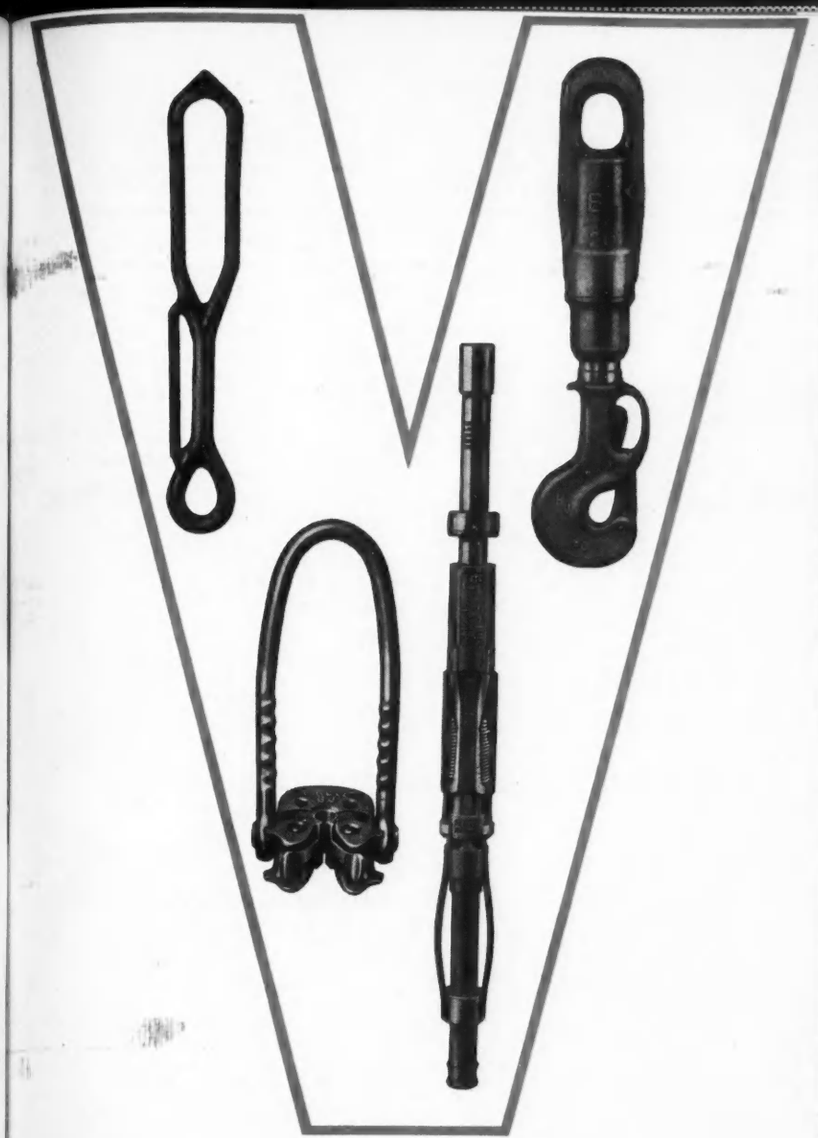
Brown Pneumatic Remote Transmission System—Pneumatic remote transmission of measurement is designed primarily for measurement of process variables in atmospheres containing explosive gases—where electrical measurement is not permissible.

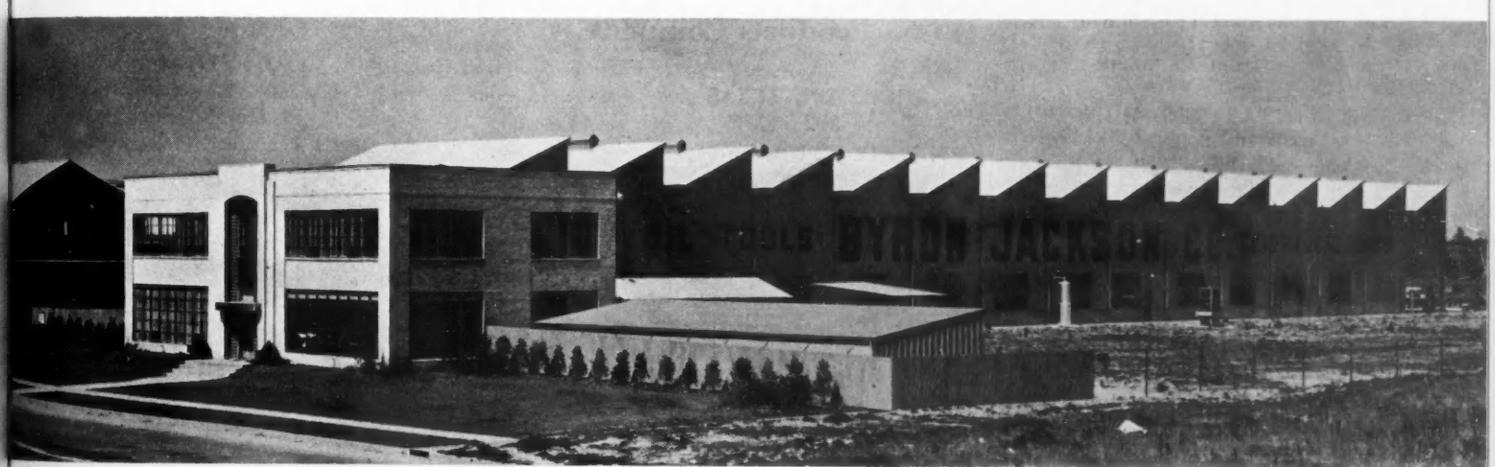
It consists essentially of a transmitting indicating instrument, at the point of operation and a receiver, which may be an indicator or recorder, located at the remote master control board.

The remote transmission unit is a simple, balanced air pilot, mechanically actuated, built into the indicating trans-



Recording Controlling Receiver of Brown Pneumatic Remote Transmission System.





VISIT OUR NEW HOUSTON PLANT

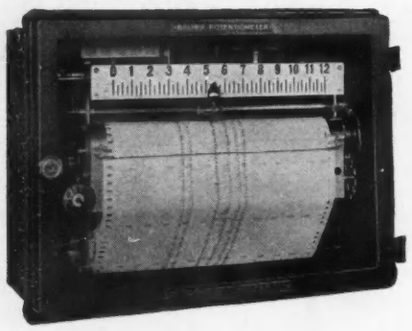
Oil men always are welcome at the new Byron Jackson Houston Plant, 6247 Navigation Blvd., where a permanent display room contains full size BJ DRILLING TOOLS ready for demonstration.

You will also find interesting a trip through th Plant where complete facilities for FACTORY REPAIR AND RECONDITIONING of all B OIL TOOLS are available.

PRODUCTION TOOLS

mitter. The receiver is either an indicating or recording pressure gauge, calibrated in terms of the variables being measured. It provides an indicator at the point of measurement. This eliminates guesswork and encourages operators to attain best possible results—not just "good enough."

Brown Multiple Recording Potentiometer Pyrometer—Where several temperature changes are recorded on a single chart, the lines overlap, making reading difficult. To obviate this chance of error in reading, the company has



Brown Multiple Recording Potentiometer Pyrometer.

introduced a multiple-color numeral printing system in its potentiometer type recording pyrometers. Only one symbol, the plus sign (+), is used and the numeral identifies the thermocouple from which the temperature record is being made. The vertical line of the plus sign identifies the temperature and the horizontal line, the time coordinate. With a 12-inch wide chart, it is possible to record from two to six temperatures from as many thermocouples.

REPRESENTATIVES: E. B. Evleth, vice president and general manager; L. Morton Morley, vice president and general sales manager; R. L. Mallory, Houston manager; E. B. Kohl, R. W. Groendycke, M. Petty, R. P. Walker, R. A. Weikel, and F. A. Rodgers, Dallas manager.

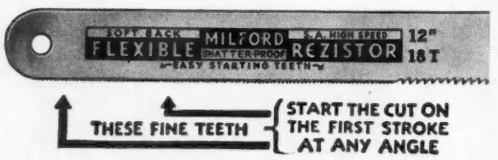
The Henry G. Thompson & Son Company

NEW HAVEN, CONNECTICUT
Booth 1225

EXHIBIT: Milford Rezistor power blades. Milford Rezistor hand blades.

NEW PRODUCTS:

Shatterproof Hack Saw Blade—This Milford "Rezistor" hack saw blade is a new type of saw, which was designed to minimize high breakage costs, and the possibility of injury to workmen, caused by blades shattering while in use in either hand frames or power machines. They are made from a special alloy high speed steel that is extremely tough. Only the tooth edge of the blade is hardened, the back being left soft and flexible, and serves as an elastic support for the hard cutting edge. The blade is unbreakable in general use and each blade will deliver its full cutting life with no premature loss through breakage, the manufacturer claims.



Another exclusive feature of the blade is that all hand blades have easy-starting teeth on the forward end. These teeth make it possible to start a cut quickly and accurately, and at any angle. The fine teeth will not catch in corners, will not rip out, and they help guide the blade straight through a cut.

REPRESENTATIVE: T. E. Hereford.

Wico Electric Company

SPRINGFIELD, MASS.
Booth 657

EXHIBIT: Magnetos.

NEW PRODUCTS:

Model C Magneto—The company will feature the new Model C magneto, in the construction of which modern plastics are employed to a considerable degree. This has enabled the manufacturer to build an attractive magneto of excellent quality at a low list price, without sacrificing quality.

REPRESENTATIVES: Victor K. Hunt, sales manager; Leon F. Smith, Southwest district manager; Harry Lolley, Tulsa sales department.

Visco Products Company, Inc.

HOUSTON, TEXAS
Booth 202

EXHIBIT: Oil treating compounds.

REPRESENTATIVES: F. H. Thorne, president; C. F. Spangler, vice president; F. A. Kroll, sales manager; L. V. Musgrove, D. M. Jacks, and F. L. Stone, representatives.

Wall Rope Works, Inc.

NEW YORK, NEW YORK
Booth 648

EXHIBIT: Manila cable, all yarn and "Wallcore." Manila crackers. Cable spinning line. Manila spinning line, 2- and 3-strand. Manila bull rope. Manila "Black Gold" catline, 3- and 4-strand. Manila derrick lines, 4-strand. Manila rope, all sizes. Lariat rope. Sisal rope. Diamond sisal rope.

NEW PRODUCTS:

Manila Catlines—The Wall line of Manila Catlines will be exhibited for the first time at the Houston Exposition under the new "Black-Gold" trade name, appropriately marked with a black, gold, and black yarn cover marker running throughout the length of the rope and providing distinctive identification. The marker replaces the two purple marker yarns formerly used. These improved catlines are the result of considerable efforts to develop a balanced construction and a lubrication that will resist successfully the wear, tear, and hard usage catlines are subjected to around a rig. Tests over a period of time, coupled with successive adjustments show remarkable improvement in the wearing qualities and life of these new catlines without any loss of flexibility or ease in handling. Made up in 1¼-inch and 1½-inch diameter they are described as a special grade of rope for catheading purposes where lasting tensile strength and durability are required for heavy work.

REPRESENTATIVES: J. Lloyd Dittman, division manager; Jim England, Gulf Coast representative; G. C. Terry, Pittsburgh Branch; H. M. Wall, president.

Fred E. Cooper

TULSA, OKLAHOMA

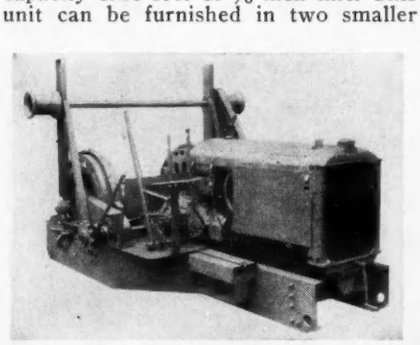
Allis-Chalmers Manufacturing Company

MILWAUKEE, WISCONSIN
Both Sides Main Entrance

EXHIBIT: Allis-Chalmers heavy-duty tractor type hoisting equipment. Allis-Chalmers heavy-duty skid type hoisting equipment and light drilling units. Complete line of Allis-Chalmers heavy duty, slow speed power engines.

NEW PRODUCTS:

Allis-Chalmers Model UEL Skid Winch—Single drum with overhead cathead and rotary drive. This unit has eight line speeds on the winch drum, ranging from 49 to 1095 feet p.m. Maximum line pull is 54,032 pounds. Drum capacity 6720 feet of ⅞-inch line. This unit can be furnished in two smaller



Allis-Chalmers Model UEL Skid Winch

drum sizes. Unit is powered with a slow speed tractor type Allis-Chalmers engine. Four cylinders. Bore 5¼-inch. Stroke 6½-inch.

Allis-Chalmers Model L Tractor—This unit is particularly adapted for drilling with rotary or cable tools and deep well cleaning out. Road speed 10 m.p.h. Transmission has four speeds forward, one reverse, maximum line pull 62,000 pounds. Spools 39,300 feet of ½-inch and 13,600 feet of ⅞-inch line. Eight line speeds on drum from 59 to 974 feet p.m. Six cylinder engine, 5¼-inch bore, 6½-inch stroke. Torque

DEMANDS—

ER *Products*

AT THE SHOW

Here are two answers—expressed in steel and experienced engineering—to 1939 shut-off problems. Hamer Geared Plug Valves are already finding their place on christmas trees and pump manifolds all over the country. Hamer Union Line Blinds have at once become standard equipment on the pump suction lines of the companies who have tested them in actual practice.

When you come to Booth No. 1224-26-28, take a few minutes and see these new Hamer developments at close range. You'll see immediately why they insure a positive shut-off with complete safety—and why long ago we adopted the slogan "YOU CAN'T STICK A HAMER PLUG VALVE!"

HAMER UNION LINE BLIND

INSURES A POSITIVE SHUT-OFF *IN ONE MINUTE OR LESS!*

- Always either a full-hole opening or a positive shut-off.
- Costs less, weighs less, and is practically everlasting.
- Can't sand up—no exposed grooves to become clogged.
- Won't leak—packing arranged for both mash-tightness and pressure seal.
- All operating parts fully enclosed against line fluid, and submerged in grease.

BOOTH No. 1224-26-28 (WELL EQUIPMENT MANUFACTURING COMPANY)

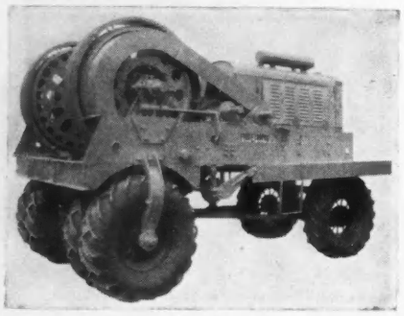
HAMER OIL TOOL COMPANY

2919 GARDENIA AVE., LONG BEACH, CALIFORNIA

R. J. EICHE, Exclusive Representative for All Foreign Territories
228 43rd Street, Manhattan Beach, California

C. K. STILLWAGON, Exclusive Representative for Entire Mid-Continent
P. O. Box 2063, Houston, Texas

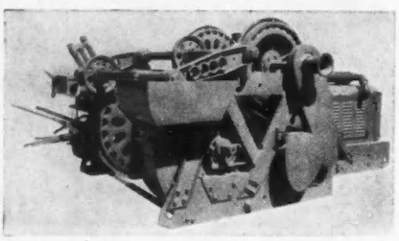
WELL EQUIPMENT MANUFACTURING CORPORATION
Jobbers and Distributors in the Mid-Continent Territory
2023 Semmes St., Houston, Texas



Allis-Chalmers Model L Tractor

550 feet pounds, at 700 r.p.m. Can also be furnished in skid type.

Allis-Chalmers Model L Drilling Unit—This skid type unit is designed for mounting on a long wheel base truck or trailer. This unit can be used with rotary or cable tools. Equipped



Allis-Chalmers Model L Drilling Unit

with two drums, cathead, rotary drive, and spudding equipment. Will drill wells to 6000 feet. Maximum line pull 62,000 pounds. Line capacities: front drum 13,600 feet of ⅞-inch, rear drum 7320 feet of ⅞-inch. Eight line speeds on each drum, from 59 to 974 feet p.m. Six cylinder engine, 5¼-inch bore, 6½-inch stroke, torque 550 feet pounds, at 700 r.p.m. Can be mounted on long wheel base truck or trailer.

REPRESENTATIVES: Fred E. Cooper, A. G. Bailey, J. W. Allen, Oscar Payne, W. H. Allen, Louis Gasche, H. B. Bloxom, C. F. Nelson, W. E. Goranflo, Jack Fincham, John Flanagan, Downs Blackburn, O. J. Work, and W. C. Simpson.

St. Louis Cordage Mills

ST. LOUIS, MISSOURI

Booth 200

EXHIBIT: Amco "All-Weather" manila rope. Superior "Best" manila rope. Trojan manila spinning lines. American "Best" manila catlines. American "Superior" manila derrick lines. Super-Wear drilling cable.

NEW PRODUCTS:

Super - Wear Drilling Cable—The company is displaying this new drilling cable, which is made of 12 lessoms. It represents a marked improvement and a new construction feature in the manufacture of manila drilling cable, according to the company. It has many advantages. The new cable has great abrasive resistance.

REPRESENTATIVES: Harold V. Pate, R. S. Norris, A. J. Ressel.

Una Welding, Inc.

CLEVELAND, OHIO

Booths 1502, 1504, 1506

EXHIBIT: Una automatic electric arc welding head, in operation. Una taper attachment for protected arc automatic welding, in operation. Una light and heavy coated electric welding rods for all types of welding.

NEW PRODUCTS:

Taper Attachment — This taper attachment, by means of a series of forming rolls and dies, completely covers wire from a coil with a woven tape previously impregnated with the fluxing elements required to produce an extremely dense weld of high strength and ductility. When attached to the automatic welding head it can be used for all types of production welding covering tank, pipe and fabrication work, including butt, lapp and fillet types of joints. The deposit is more uniform than that obtained with shielded and manual rods, the manufacturer claims.

REPRESENTATIVES: W. B. Baker, general manager; Gil V. Dye, and James Tate, sales representatives.

Twin Disc Clutch Company

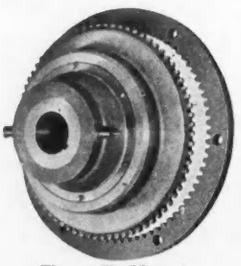
RACINE, WISCONSIN

Booths 1320, 1322

EXHIBIT: Model E, double-plate, 18-inch clutch, cut away to show section. Model ES, double-plate, 24-inch clutch with sub shaft. Model B power take-off unit for internal combustion engines. Power take-off unit cut away to show section. Model MT 5-inch, single clutch to run in oil. Model MT 5½-inch, duplex dry-type clutch. Model MG 61 marine reverse and reduction gear with 2 to 1 reduction ratio.

NEW PRODUCTS:

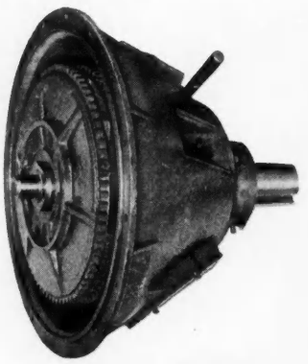
Model E, Two-Plate Clutch — The company will exhibit its Model E, two-plate, 18-inch clutch, so cut as to show its construction. This model of clutch is especially designed for heavy-duty services including shock loads and is one of the most commonly used clutches on oil field equipment. The



Type E Clutch

same model clutch will also be exhibited with a stub shaft provided with a flange for bolting onto the crankshaft or flywheel of an engine in cases where an extra rigid mounting is desirable.

Twin-Disc Power Take-Off Unit—Another Twin Disc product that will be exhibited in cut-away form to show its construction, will be a twin disc power take-off unit for use with internal combustion engines. They are used on many oil field pumping engines as the standard link between the engine and the pump. Extra large diameter shafts and the use of oversize anti-



Power Take-Off

friction bearings permit overhanging pulleys slightly exceeding the width of the shaft extension to be used on these power take-offs without the necessity of an outboard bearing.

Multiple Disc Clutch—A new Twin Disc product which will be exhibited is its Model MT multiple disc clutch. The "in-oil" type of clutch will be exhibited in single construction; the dry type in duplex construction. The duplex type may be used as a two-speed drive or one of its clutches may be used as a brake or a power reverse drive. The outstanding features of the new Model MT clutches are their compactness, high torque capacity for their size and the comparatively low operating pressure required.

REPRESENTATIVES: G. M. Guilbert, vice president; J. B. Jenkins, Mid-Continent manager; G. Gibson, C. Cushman, J. Crater and E. J. Christopher.

Standard Brass & Manufacturing Company

PORT ARTHUR, TEXAS

Booths 634, 636

EXHIBIT: Non-ferrous heat exchanger tubes. Admiralty tubes. Red brass tubes. Antimonial admiralty tubes. Cupro nickel tubes.

NEW PRODUCTS:

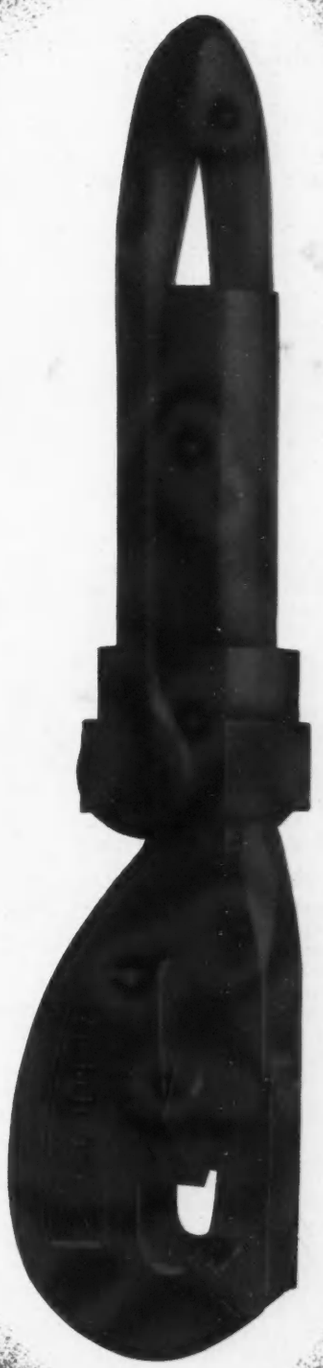
Antimonial Admiralty Tubes—Antimonial admiralty is a modification of admiralty, having the same composition, plus the addition of 0.1 percent antimony. The physical properties of antimonial admiralty are for all practical purposes identical with that of plain admiralty. Antimonial admiralty is according to accepted knowledge practically immune to dezincification to which regular admiralty is highly susceptible. Antimonial admiralty is said to be superior to red brass to the extent that it has appreciably better resistance to corrosion by sulphur compounds occurring on the vapor or oil side of the tube. It is also better than red brass for resisting impingement attack or destructive cavitation.

REPRESENTATIVES: G. L. Boane, sales manager; H. J. LeBlanc, secretary-treasurer; J. W. Wickstrom, C. T. Bell, salesmen; B. Boykin, Jr., branch manager.

ANNOUNCING THE NEW Regan COMBINATION HOOK

RUSHED TO HOUSTON FOR EXHIBITION AT THE OIL SHOW

The New Regan Combination Hook embodies two separate load carrying elements: the lower hook carries the swivel bail; the upper yoke is designed to carry elevator links. The cross-yoke is slidably mounted so that when the load is applied, the yoke travels downward and rests upon the main hook to carry a full load of 300 tons with a large safety factor. The hook is either forged or cast of alloy steel, fully heat-treated to develop the optimum of physical properties. A heavy-duty anti-friction roller bearing enables the hook to swivel freely. The hook can be locked in any one of four positions. Overall length, 120 inches. Weight, 5,000 pounds. For complete information regarding the New Regan Combination Hook, fill out and mail the coupon today.



SEND THIS COUPON

Regan Forge & Engineering Company
San Pedro, California

Gentlemen: Please send me at once full details of your New Combination Hook.

Name_____

Address_____

Company_____

City_____ **State**_____

Regan

Forge & Engineering Co.

San Pedro California

Quality - Wrought on the Forge of Experience

Mid-Continent Office
1502 Maury St., Houston
New York — 17 Battery
G. R. Woods, Rep.

Oklahoma and Kansas
Representatives
Bovaird Supply Co.
Tulsa and Wichita

Texasteel Manufacturing Company

FORT WORTH, TEXAS
Booths 412, 414

EXHIBIT: Sucker rods. Pull rods. Polished rods.

NEW PRODUCTS:

"Electric Steel" Rods—The company is limiting its 1939 Oil World Exposition space to the improvements effected on its "Electric Steel" sucker, pull and polished rods. These will be shown in every stage of manufacture from the electric furnace to the finished rod. Among the improvements are new alloys for corrosive conditions; increased physical properties due to new and improved normalizing furnaces; a new type of ground-face coupling for sucker rods, insure perfect A.P.I. joints.

REPRESENTATIVES: A. J. Armstrong, vice president and general manager; G. W. Armstrong, Jr., vice president; R. C. Armstrong, sales; F. F. Foster, secretary-treasurer; Goodson Rieger, sales.

The L. S. Starrett Company

ATHOL, MASSACHUSETTS
Booth 516

EXHIBIT: Micrometers. Gauges. Rules. Squares. Levels. Indicators. Calipers. Dividers. Hack Saws. Steel tapes.

NEW PRODUCTS:

Planer and Shaper Gauge—This gauge was developed to meet demands of mechanics who wanted a little greater accuracy for gauge work than was given under older models. Alignment and parallelism of ends, sides and work contacts are held to closer limits. Lateral play of slide or incline of base is eliminated through the angular ways.

Indicator—An unusually sensitive and flexible indicator that will hit about every conceivable application. The rotating friction sleeve carries the ball contact with it. This feature alone always permits the thousandths graduated plate, with the range of .012, to be maintained in the preferred position, thus eliminating physical and eye strain, double graduated scale or mirror.

Protractor—This No. 568 protractor is convenient for checking layout work, being the handy, small acute angle type, range from 0 to 90 degrees. With square shaped end plate, its utility is increased, as aligned with work, layout and check can be made from the ends. Primarily designed to facilitate fairly close and quick test of sharp included angles, etc.

"Wiggler" or Center Finder — This "wiggler" is for jig and tool work, such as locating working points in milling and vertical machines, drill presses, etc. Pointer is tensioned against spring so when guided to true concentric, work is brought to perfect alignment with machine spindle. Screw in back of shank varies tension on ball of pointer, and point is protected by telescoping in body when not in use.

Small Hole Gauges—This is an inexpensive, practical set of small gauges that reach into small holes and recesses, and obtain measurements from ⅛ to ½ inch. Balance, sensitivity of contact and adjustment, together with ball radius, hardness and amplitude, make this set of gauges of real value.

REPRESENTATIVE: W. J. Clark.

H. L. Turney Company

HOUSTON, TEXAS
Booth 1065

EXHIBIT: Turney Four Speed draw works, powered with a 225-horsepower LeRoi gas engine, and with Allis-Chalmers power drive. Unit will be in operation.

REPRESENTATIVE: H. L. Turney.

Schlumberger Well Surveying Corporation

HOUSTON, TEXAS
Booths 117, 119, 121, 123 on Stage

EXHIBIT: Electrical logging (automatic recorder). Three types of side wall samplers. Two types of gun perforators.

NEW PRODUCTS:

Multielectrode Recording—This new method gives several resistivity logs with increased depths of investigation, thus allowing the resistivity readings to reach the true fluid contained in the formation behind that portion which has been invaded by the water from the mud. Electrical logging was formerly valuable primarily for correlation and therefore was of considerable help in subsurface studies of oil fields; however, it has now become a tool which can make a very good differentiation between oil and salt water in nearly all cases, according to the company.

Side Wall Sampler — This method consists of lowering the sample taker gun into the hole by the standard Schlumberger cable and firing into the formation hollow bullets which remain attached to the gun. In this manner the samples are brought back to the surface with the gun. Accuracy in sample taker placement is obtained by attaching an electrode to the sample taker and recording a new electrical diagram of that section.

REPRESENTATIVES: J. L. Mathieu, G. H. Murray, W. A. Clark, Jr.

A. O. Smith Corporation

MILWAUKEE, WISCONSIN
Booths 738, 740

EXHIBIT: High Yield Casing.

REPRESENTATIVES: C. C. Joys, Jr., vice president of sales; B. F. Bart, sales manager Gulf Coast division; A. E. Butts, Tulsa district manager; H. A. Bourne, Houston district manager; Stanley Carpe, Houston office; R. Furrer, vice president in charge of engineering; W. R. Kepler, chief engineer; T. M. Jasper, technical research consultant; J. Dilot, advertising manager.

Higgins Industries, Inc.

NEW ORLEANS, LOUISIANA
Booth 1062, Exposition Grounds

EXHIBIT: Boats for use in shallow water and marshlands. Moving pictures of boats in use will be shown.

NEW PRODUCTS:

Work Boats—The Eureka models are the result of a number of years of experimental work in the development of work boats for shallow water and marshlands.

REPRESENTATIVES: A. J. Higgins, Sr., vice president; A. J. Higgins, Jr., assistant vice president; E. B. Higgins, sales representative.

Eastman Oil Well Survey Company

DALLAS, TEXAS
Booths 320, 421

EXHIBIT: Multiple shot survey instrument. Orienting system. Regular open hole single shot. Inside single shot. Photographic drift indicator. Type "M" drift indicator. Acid bottles. Open hole removable whipstock. Hydraulic spudding bit. Hydraulic whipstock (casing permanent). Open hole permanent whipstock. Hydraulic expanding underreamer. Rock type pilot reamer. Directional bits. Casing roller.

NEW PRODUCTS:

Multiple Shot Survey Service—The instrument is powered by four heavy clock type springs, thus giving a safety factor of operation, and although it is smaller in diameter and length, it is rugged in construction.

The outstanding features of the orienting method and equipment are simplicity of operation; and the elimination of the human error.

At each stand, the total angle of rotation of the drill pipe with respect to the known azimuth is photographically recorded by merely pushing a button. Thus, in one step are eliminated both human and cumulative errors.

Eastman Drift Indicators—In addition to the regular 1½-inch O.D. photographic drift indicator, the company has now available a ⅞-inch O.D. instrument of the same type. The Eastman type "M" indicator is a photographic type, but the film does not have to be developed. No loaders or unloaders are necessary, and still it has all the desirable qualities of the photographic indicator, i.e., positive proof the instrument was on bottom and not moving, and accuracy.

Single Shot Instrument—The single shot now uses single fluid, which replaces both the developer and fixer solutions. The film is permanently fixed in less time with no possibility of over or under developing. All chance of error in using the wrong solution first is eliminated.

REPRESENTATIVES: Ray F. Bolton, vice president; Ross E. Wiley, vice president; Al G. Pabst, sales manager.

World's Most Popular

TUBING TONGS

now gives you

This VALUABLE TONG IMPROVEMENT

PETOL was the first "snap-on" tong . . . the first tong made with a cam lever which locked the tongs on the pipe, making it possible to reverse the tubing and making it impossible for the tongs to fall off when being passed. These exclusive features made the PETOL TUBING TONGS the fastest selling tongs in the world.

NOW . . . this world's most popular tubing tongs makes its already valuable improvements more outstanding than ever. The same cam, which has always locked the jaws, now also opens the jaws, merely by pressing the cam lever against the handle. This feature enables the user to lay the tongs on the pipe, avoiding any possibility of creating a spark . . . yet it has not sacrificed the "snap-on" feature. The user can "stab-on" and "pull-off" . . . or, he can "put-on" and "take-off" the tongs at his discretion.

Speed, ease in handling, and safety are three good reasons why the PETOL TUBING TONGS have become the largest sellers the world over. Most major oil companies have standardized on this tubing tong after both field and laboratory tests.

GEARENCH MFG. CO.

HOUSTON, TEXAS

25 TYPES **275 SIZES**

"Most Complete Line of Tongs in the World"

The Duff-Norton Manufacturing Company

PITTSBURGH, PENNSYLVANIA
Booths 719-721

EXHIBIT: A full line of jacks in the motor operated power, self-lowering, automatic lowering, truck, cable reel, emergency, low height, track or trip, general purpose, oil well, telescope screw, governor controlled and high speed types. Ball bearing jack screws.

NEW PRODUCTS:

Duff-Norton Four-Way General Purpose Jack—This jack, No. 1523, has a capacity of 15 tons, and is for straight lifting, chain lifting, hook lifting and foot lifting. A newly improved single unit automatic lowering mechanism provides long service and smooth, easy lowering. This oil-tempered, spring-actuated mechanism is self-contained in a housing and can easily be removed bodily from the jack for occasional adjustment or renewal. The entire mechanism is contained in coverall housing to protect the vital parts from dirt or exposure. The swivel base permits lifting at various angles for shoving, pushing, or post pulling while the positive latch permits upright lifting in absolute safety. Light in weight, the jack is an ideal one-man jack with a multitude of uses. It is equipped with double socket lever for operation in cramped quarters.

Four-Way General Purpose Jack

Bell-Bottom Jack Screws

Duff-Norton Bell-Bottom Jack Screws—They are made in 38 sizes, have solid one-piece cast-steel base and double-ribbed collar reinforcement around threaded area of casting to insure added strength. One-piece steel screw has forged steel head surmounted by unbreakable drop-forged steel top firmly attached without use of pins. Load friction reduced by use of chrome molybdenum steel balls which rotate in machine-cut, grease-packed channel beneath drop-forged top, assuring smoother lifting action with minimum of effort under heavy loads. Roller bearing device also prevents jack from twisting under load. Smooth-surface machine-cut threads of correct pitch, depth and thickness, facilitate handling rated capacities.

REPRESENTATIVES: C. N. Thulin, H. C. Gardner.

Electro-Copyist of Texas

HOUSTON, TEXAS
Booth 1220

EXHIBIT: Electro-Copyist models in the 10 x 16 portable machine, 14 x 19 commercial machine, 24 x 30 new vacuum machine and 14 x 19 Unitype machine styles.

NEW PRODUCTS:

Electro-Copyist Portable Model with copying capacity of 10 inch by 16 inch can be easily carried about and takes up little more space than a typewriter. It is ideal for letters, waybills, checks, invoices and similar material. The new models have been greatly improved by a metal front which not only improves the appearance but aids in the sturdy construction of these machines. The automatic timing device has been placed on the front of this machine for greater convenience in operation.

Electro-Copyist Commercial Model with copying capacity of 14 inches by 19 inches is somewhat larger than the portable model but is exactly the same in construction and operation. The larger copying capacity of this machine allows it to handle a greater variety of work. Both the portable and commercial models have built-in filter plates and roll paper containers which is a decided advantage over similar machines of this nature.

Electro-Copyist Vacuum Seal Model is a new, large stationary unit with copying capacity of 24 inches by 30 inches featuring first, the vacuum seal, created by a motor driven pump which holds the material to be copied in perfect contact with the glass, assuring clarity and sharpness in reproduction; second, the newly developed amber light which eliminates all filter plates. By a simple flick of the switch either amber or white light can be used. These machines are available in two larger models with copying capacities of 26 inches by 38 inches and 30 inches by 42 inches.

Electro-Copyist Space Saving Unitype Model with a copying capacity of 14 inches by 19 inches contains all the features of the larger vacuum seal models plus built-in roll paper container, trays, drains, water hose, paper and chemical storage space and dryer, shelf, complete in one compact cabinet. Exposure time on all Electro-Copyist machines is regulated to split seconds by an automatic timer.

REPRESENTATIVES: F. T. Simmons, J. G. Heywood, B. L. Cumber.

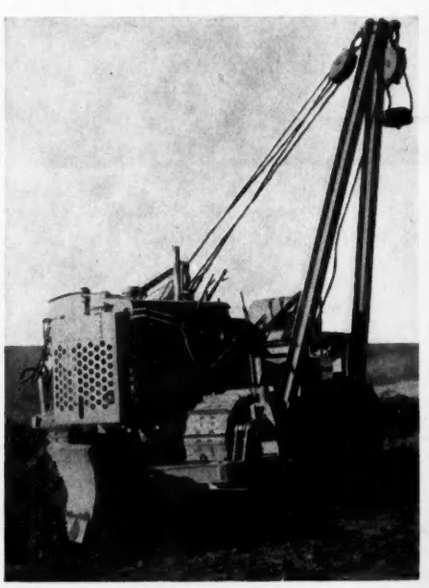
Allsteel Products Manufacturing Company

WICHITA, KANSAS
Booth 1033

EXHIBIT: Model R single drum servicing hoist, powered with Hercules HXE. Model R double drum draw works, powered with Caterpillar D-13000. Model K single drum servicing hoist with Waukesha GAKU. Double drum Mobilhoist with mast, spudder and rotary drive assembly, powered with Buda K-428. Model PG sideboom with plate backfiller, mounted on Caterpillar D6 tractor.

NEW PRODUCTS:

Blade Backfiller — This backfiller, mountable on Caterpillar Model R5 or D6 Diesel wide gauge tractor with "Cardwell" Model PG Sideboom, eliminates necessity of removing blade for pipelaying or sideboom when backfilling trench. The blade is hydraulically operated by single lever control placed near operator's seat. Lift of the blade is approximately one foot per second, a total of 28 inches above track and eight inches below. The blade can be locked in any position. Moldboard is reinforced by ribs and large-size box beam across bottom of blade. Push bars are of large-size H-beam section. This backfiller is easily mounted on tractors now in field and equipped with "Cardwell" Model PG Sideboom.



Allsteel Blade Backfiller

REPRESENTATIVES: H. W. Cardwell, president; Arthur Harvey, sales

manager; H. W. Cardwell, Jr., assistant in sales department; R. B. Gilmour, salesman; Earl Marsh, salesman; D. W. Richardson, salesman; B. J. Lorts, salesman, and Paul A. Lago, advertising manager.

J. E. Shaffer Company

TULSA, OKLAHOMA

Booths 104, 106, 108, 110, 112, 114, 116, 118, 120, 205, 207, 209, 211, 213, 215, 217, 219, 221

EXHIBIT: Shaffer hand power units. Shaffer water gauge cocks.

NEW PRODUCTS:

Shaffer Hand Power Units—These portable units are used for hoisting heavy loads on foundations, platforms, etc., for trucks not equipped with winches, for tightening pump rods on

Shaffer Hand Power Unit

pumping wells, and skidding and placing heavy machinery. They are offered in two sizes, the "Come-Along" tested to 6000 pounds, and "Little Sampson" tested to 2000 pounds.

Shaffer Water Gauge Cocks—These

Shaffer Water Gauge Cock

gauge cocks, for use on oil field and stationary boilers, are made in two sizes, ½" and ¾".

Briggs Clarifier Company

WASHINGTON, D. C.

Booth 1569

EXHIBIT: Model D-2A lubricating oil clarifier. Model G-600 lubricating oil clarifier. Model F-5 fuel oil clarifier. Models G-800 and D-1 lubricating oil clarifiers.

NEW PRODUCTS:

Model D-2A Lubricating Oil Clarifier—This clarifier, for use on stationary Diesel and natural gas engines, can be applied as a by-pass clarifier for wet sump engines where the oil feed is taken from the main pressure line. It also can be placed in the line from the scavenger pump to the storage tank. On dry sump engines, installed the latter way, the full flow of the scavenger pump goes through the case. A pressure control valve maintains a constant pressure of 8 pounds on the clarifying elements.

Model F-5 Fuel Oil Clarifier—This clarifier is designed to handle a flow of 5 gallons of fuel per hour. The inlet and outlet is of a size to facilitate easy installation on engines having this rate of consumption. The filtering element contains a sufficient quantity of Fuller's Earth for gum absorption plus ample absorbent material for the removal of solid matter.

Model G-600 Lubricating Oil Clarifier—This device is of the light heavyweight class and is intended for use on heavy duty gasoline engines of not over 600 cubic inches piston displacement. The case is made of .125-in. steel. Two strap brackets are provided for mounting. Complete sets of durable fittings are available for this clarifier. It is intended for heavy duty service, and according to the manufacturer, the clarifying element will absorb at least its own weight in solids and approximately 11 percent of its weight in gum and about 200 c.c. of acid.

REPRESENTATIVES: Dunman Perry, field engineer; Robert G. Taylor, field engineer; Walter A. Frazier, sales representative; and A. C. Stanfield, sales representative.

The Permutit Company

NEW YORK, NEW YORK

Booth 1341

EXHIBIT: New portable Zeolite water softener rig for treating boiler waters for well drilling equipment. Literature and photo blowups describing Zeo-Karb hydrogen Zeolite treatment, Permutit cold and hot lime soda methods of water softening, chemical feeds and Floc-formers. New automatic household softening unit.

REPRESENTATIVES: J. A. Rossiter and J. P. Jeter.

Bantam Bearings Corporation

SOUTH BEND, INDIANA

Booths 1110, 1112

EXHIBIT: American Well & Prospecting Company's swivel. Small crown and traveling block. Small Failing swivel. Two 1-row taper bearings. Roller thrust bearing for 6-inch swivel. Roller thrust bearing for 4-inch swivel. Assorted sizes of Bantam "Quill" (needle-roller) bearings. Cross section quill bearing. Assorted large and small rollers. Angular contact ball-thrust bearing. Miscellaneous bearings manufactured by Torrington Company.

Baroid Sales Department National Pigments and Chemical Division of National Lead Company

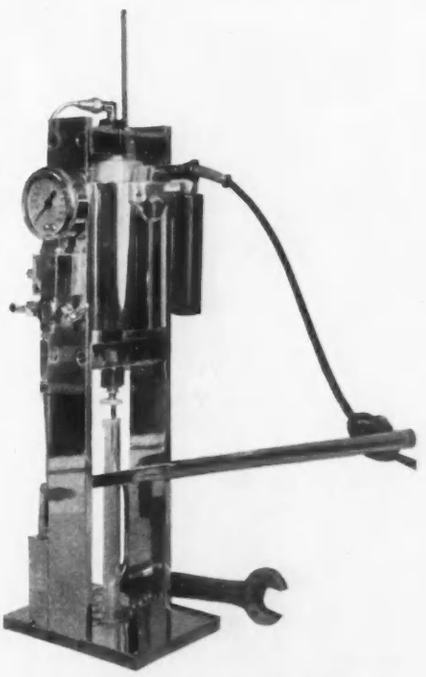
LOS ANGELES, CALIFORNIA

Booths 224, 325

EXHIBIT—Colored slide films illustrating processing and use of products. Baroid high-pressure, high-temperature wall-building Tester. Baroid low-pressure wall-building Tester. Baroid mud-testing equipment cabinet. Baroid pressure pump. Mudwate Hydrometers. Stormer Viscosimeter. Marsh funnel Viscosimeter. Beckman pH meter. Wulff pH meter. Elutriation apparatus. Miscellaneous testing equipment used for complete analyses of drilling muds. Samples of Baroid products: Aquagel, Baroid, Stabilite, Fibrotex, Disperso, Baroco, Zeogel, and Aquagel-Cement in their various uses.

NEW PRODUCTS:

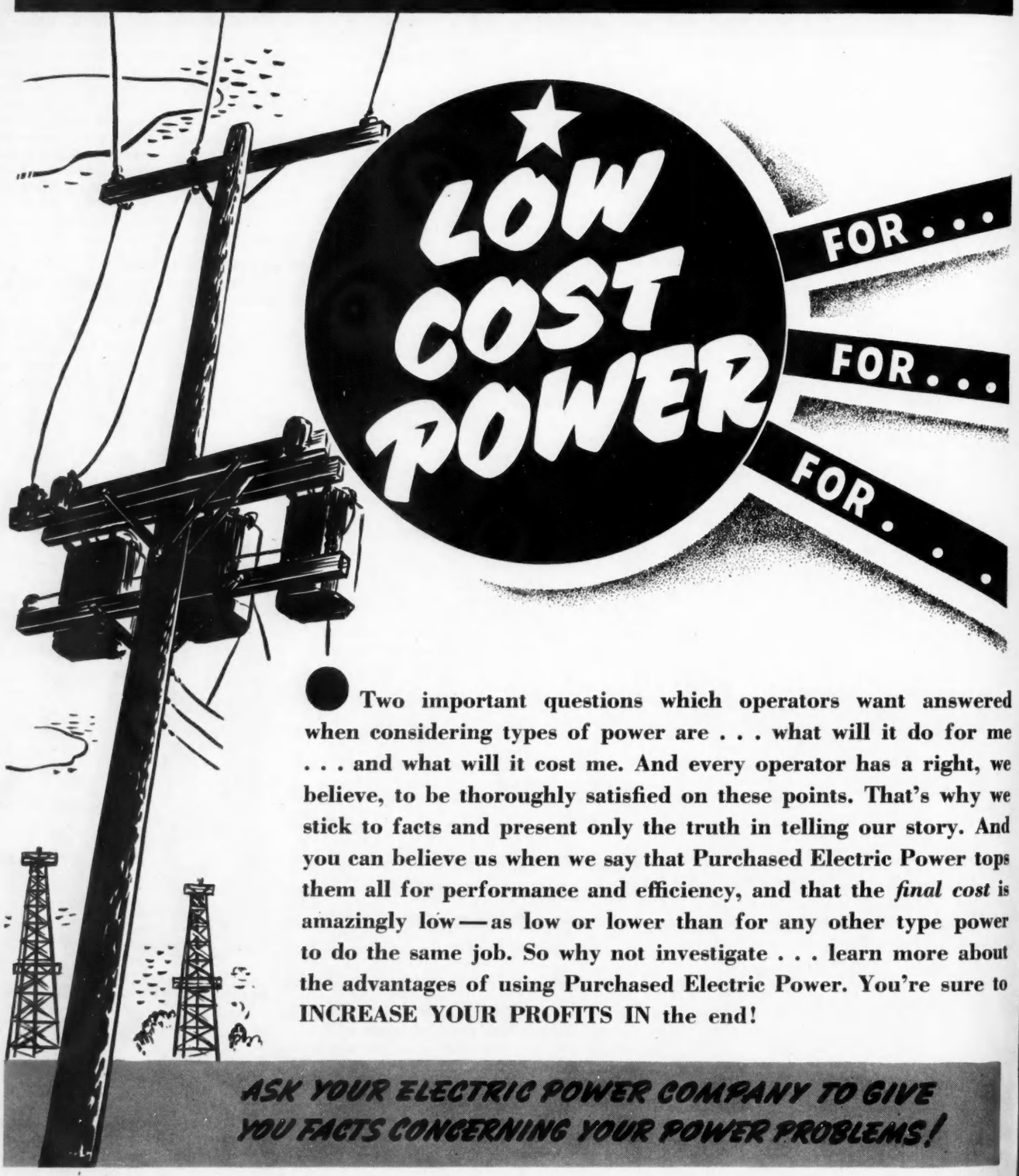
Baroid High-Pressure, High-Temperature Wall-Building Tester—This tester investigates the wall-building properties of drilling muds at elevated conditions of pressure and temperature in order to approximate existing well conditions to which a mud is subjected. It will withstand pressures up to 1000 pounds per square inch, with a temperature control up to 212° F. It is port-



Baroid High-Pressure, High-Temperature Wall-Building Tester

able and can be used for field as well as laboratory testing. It consists essentially of a filter cell fitted into a bath and a screw press. Built on the tester are a water reservoir, small hydraulic pump for furnishing the pressure, check valve, 1500-pound pressure gauge, and a by-pass valve, all of which present a

PURCHASED ELECTRIC



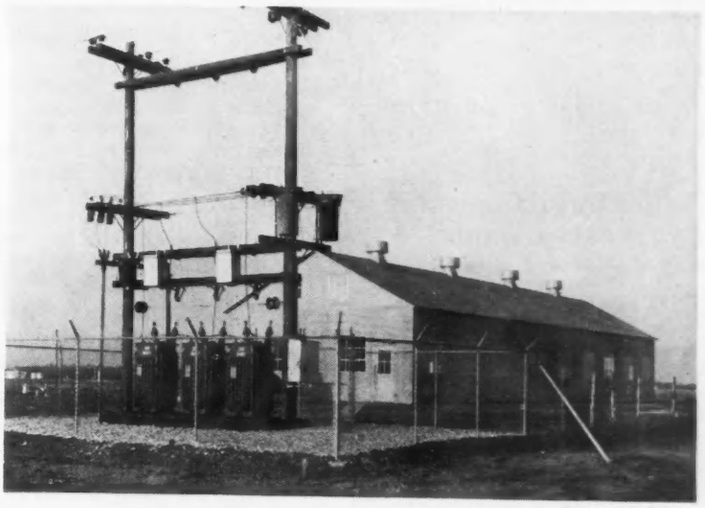
Two important questions which operators want answered when considering types of power are . . . what will it do for me . . . and what will it cost me. And every operator has a right, we believe, to be thoroughly satisfied on these points. That's why we stick to facts and present only the truth in telling our story. And you can believe us when we say that Purchased Electric Power tops them all for performance and efficiency, and that the *final cost* is amazingly low—as low or lower than for any other type power to do the same job. So why not investigate . . . learn more about the advantages of using Purchased Electric Power. You're sure to INCREASE YOUR PROFITS IN the end!

ASK YOUR ELECTRIC POWER COMPANY TO GIVE YOU FACTS CONCERNING YOUR POWER PROBLEMS!

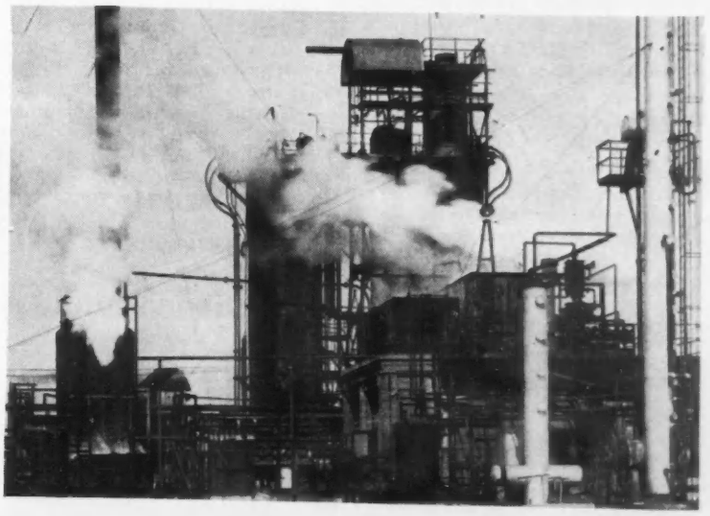
POWER

PRODUCTION

PIPE LINES



REFINING



PROFIT! BY USING Purchased ELECTRIC POWER

Visit us at the OIL-WORLD EXPOSITION . . . Booths 9, 10, 11

PETROLEUM ELECTRIC POWER CLUB

compact arrangement for providing pressure on the mud.

Disperso—This material was developed to recondition cement-cut mud and to prevent mud from becoming cement-cut. According to the manufacturer, Disperso not only counteracts the effect of cement-cutting, but frequently, as a result of the treatment, the mud displays better performance characteristics than it did originally. Included with the substance which counteracts the calcium ion is a percentage of gel-forming colloidal material which increases the wall-building characteristics of the mud. The manufacturer claims this treatment has proved more economical in cost and time saved by eliminating the necessity of discarding all the mud in the system and changing over to a new mud. Disperso is sold in 100-pound, 4-ply paper bags.

REPRESENTATIVES: George L. Ratcliffe, general manager; Harold H. Farnham, Gulf Coast sales manager; D. A. Sikes, Mid-Continent sales manager; E. C. Meyer, advertising; Warde Evans; George Moore; R. W. Wilson; J. M. Bugbee; C. W. Sulzer; and G. C. Wahlstrom.

White Motor Company

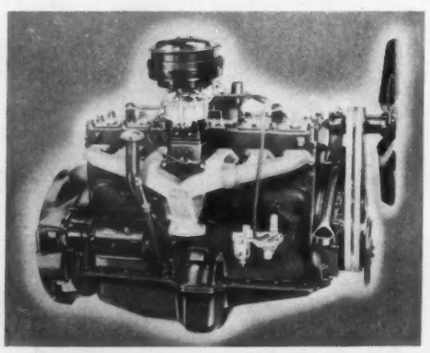
CLEVELAND, OHIO
Booths 1066-A, 1067-B

EXHIBIT: Model 942-S White Tandem-Drive oil field truck. Model 750 White truck with oil field body and winch.

NEW PRODUCTS:

Model 942-S White Tandem-Drive Truck—This truck, equipped with a White Super-Power engine and floating ride cab, has large tandem drive axles, high and low speed reverse gears, large rear tires, and is streamlined. According to the manufacturer, it has more loading space than before obtainable, has greater strength and power, thus providing larger payloads, and is lighter weight.

Model 750 White Oil Field Truck—This truck, equipped with a "floating ride" cab, possesses individual bus type seats, air foam cushions, and floating ride suspension. According to the manufacturer, gasoline is burned more efficiently, greater payloads are possible since more power is developed per pound of engine weight, and maintenance expense is low.



White Super-Power Engine

White "Floating Ride" Cab

REPRESENTATIVES: J. N. Bauman, vice president and general sales manager; C. B. Cowan, vice president; L. B. Hughes, district manager; J. D. Hughes, branch manager, Houston; C. E. Roper and J. B. Hallman, sales representatives.

The Bristol Company

WATERBURY, CONNECTICUT
Booth 1

EXHIBIT: Instruments for telemetering and the remote control of processes in the oil industries, including those for temperature, pressure, vacuum, flow or liquid levels. Temperature and liquid level reset controllers will be shown at this exhibition. The company's line of Pyromaster "round-chart" potentiometer recorders and controllers will be featured. Other instruments exhibited will be the "Wide-Strip" potentiometer multiple-point recorder air-operated valve positioner.

REPRESENTATIVES: H. E. Beane, A. A. Blackmen, H. A. Van Hala D. D. Ault, R. A. Barnes, E. H. Hart.

Pettibone Mulliken Corporation

CHICAGO, ILLINOIS
Booth 1584

EXHIBIT: Manganese steel sheaves of improved drilling and A. P. I. production types. Diamond Alloy slush pump liners, swivel wash pipes, cores for well head (blowout preventers), and ball seats.

NEW PRODUCTS:

Manganese Steel Sheaves—According to the manufacturer, these sheaves have the combined characteristics of safety, long rope and sheave life.

Diamond Alloy—This alloy is particularly adapted to applications requiring continued and extreme resistance to abrasion. It has a tensile strength of 75,000 psi, a Brinnell hardness of 670-700, and a relative wear resistance of 12 to 1 against SAE 3340 steel and 2½ to 1 against an alloy of 600-700 Brinnell composed of iron carbides and Martensite. The manufacturer claims Diamond Alloy has marked resistance to corrosion, not only at normal temperature but at continued high temperatures in extreme corrosive atmospheres. It is particularly recommended for slush pump liners, swivel wash pipes, cores for blowout preventers and ball seats.

REPRESENTATIVES: C. Kenneth Smullen, Mid-Continent representative; E. I. Seifert, vice president; W. Enstrom, vice president and plant superintendent; and J. P. Murtaugh, sales manager.

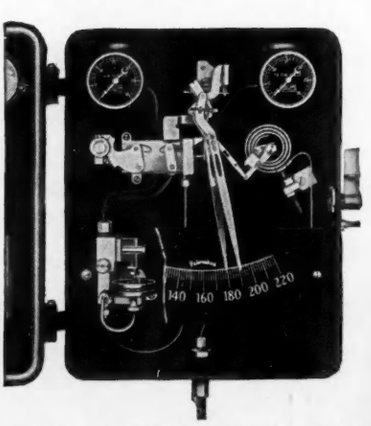
C. J. Tagliabue Mfg. Co.

BROOKLYN, NEW YORK
Booths 358, 360, 459, 461

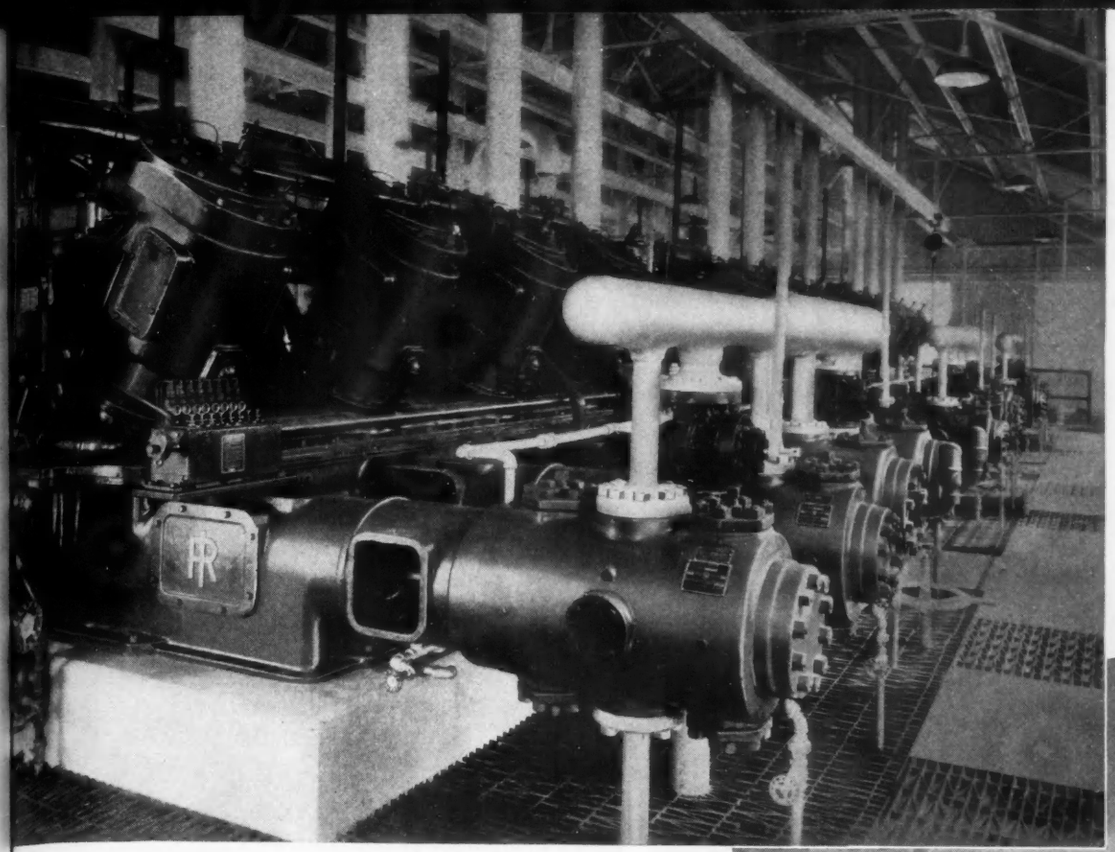
EXHIBIT: Recording thermometers. Indicating controllers. Recorder-controllers. Panel board display showing important steps in manufacture of chemical thermometers and hydrometers. Industrial thermometers. Dial-indicating thermometers. Pyrometers.

NEW PRODUCTS:

Direct-Set Indicating Controllers—The new Direct-Set indicating controllers are made in models 9-TIC for temperature and 9-PIC for pressure. These instruments are designed for ruggedness and operating convenience. The distinctive modern style of these controllers is in pleasing agreement with their advanced mechanical construction. Basically all the latest developments including the interchangeable calibrated tube system, safety link for range protection, pointer arm brackets with bearings on each end, and all important parts made of stainless steel, are found in these instruments. Controllers can be supplied in two types: On-Off or Throttling. Both include the direct-set feature having



Tag Direct-Set Indicating Controllers



Six 8-cylinder, 300-hp Type XVG gas-engine-driven compressors at Lance Creek Field, Wyoming.

*A UNIT OPERATION OF OHIO, CONTINENTAL, AND ARGO OIL COMPANIES

Pressure Maintenance with

XVG COMPRESSORS

*in Lance Creek Field, Wyoming**

● This plant handles daily over 9,000,000 cubic feet of gasoline extraction plant residue gas, the units taking the gas at a pressure of approximately 50 pounds, compressing it to approximately 850 pounds, and returning it to the producing oil horizon.

Through this conservation measure, the field pressure drop has been slowed up to 10% of its former rate of decline.

The plant is equipped with 6 Ingersoll-Rand 8-cylinder XVG 300-hp gas-engine-driven compressors. They have been in service since February 1938.

Consult Ingersoll-Rand for high-pressure compressors . . . many are operating on other jobs up to 15,000 lb pressure.

OTHER I-R PRODUCTS

Diesel Engines, Gas Engines, All Types of Compressors, Pipeline and Refinery Pumps, Rock Drills, Pneumatic Tools, etc.

Dallas
Denver
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Ingersoll-Rand

11 BROADWAY, NEW YORK CITY

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Los Angeles
Newark
New York
Philadelphia
Picher
Pittsburgh
Pottsville

Salt Lake City
San Francisco
Scranton
Seattle
St. Louis
Tulsa
Washington

the white control pointer and red setting pointer indicating across a 5½" graduated scale.

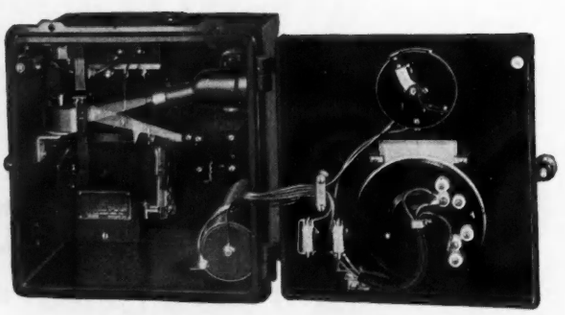
"9" Recorder for Temperature and Pressure—Tag announces a new "9" Recorder for temperature and pressure, occupying half the space of the larger 10 and 12 inch recorders. The announcement of this new "9," completes a line of recording instruments with 9, 10 and 12 inch charts. By compact arrangement in a small case, every

"9" Recorder for Temperature and Pressure

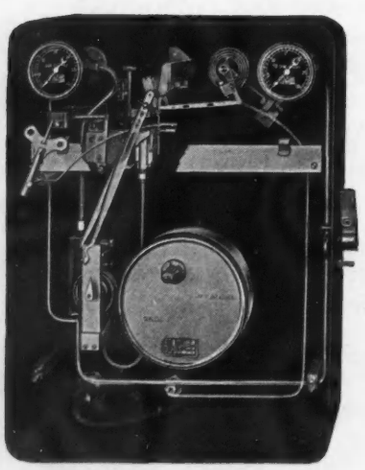
feature found in the standard recorders is offered in these new dependable instruments. These features include the: Interchangeable tube system that can be replaced readily and need be checked at one temperature only; Pen Arm bracket supported by bearings at both ends; Positive micrometer pen adjustment; Safety link for range protection; Handy door-latch that catches when door is swung closed—fastens when the handle is pushed down; Convenient chart holders—a turn of the knurled knob releases the gripping fingers and the chart slips over—nothing to remove or lose; 9-inch chart with 3 5/16 inches pen travel assures open graduations for easy reading; Visible-record stainless steel pen arm; Removable capillary fountain pen—precision-built on the design of the draftsman's pen.

Recorders and Recorder-Controllers with 10 and 12 inch charts—A new line of recorders and recorder-controllers with 10 and 12 inch charts for temperature and pressure presents many new features of design. In addition, the Tag recorder-controller is offered in either the "on-off" or throttling control model. The on-off model with the simple non-adjustable flapper fits all ordinary temperature control applications. The throttling model utilizes an adjustable calibrated flapper which provides an exact sensitivity adjustment. This design permits easy adjustment of the throttling range to coincide with any considerable apparatus lag.

Vibration-Proof Celectray Indicating Pyrometer Controller — A vibration-proof indicating potentiometer, Celectray Model V, has been developed. Photoelectric detection of the position of a light-beam reflected from the mirror of a moving galvanometer provides an undiminished high sensitivity of the original indicating controller combined with practically instantaneous response. A new damped photoelectric circuit has been developed which does not respond to abnormal disturbance of the light-beam. So far as vibration is concerned, Model V acts somewhat as a filter, that is the action of vibration upon the galvanometer cannot effectively be transmitted through the instrument to the control device such as a magnetic contactor. This controller can be mounted rigidly in a vibrating panel along with the contactor or next to a drop hammer without regard for the possible effect of vibration. Vibration does not cause the primary relay within the instrument to operate nor does it interfere with normal action of the controller. It is claimed that the instrument is sensitive to temperature change but not to vibration.



Celectray Model V Indicating Pyrometer



Tag Recorder and Recorder Controller

REPRESENTATIVES: E. D. Wacker, general sales manager; R. M. Wilhelm, division sales manager; L. Van Blerkom, division sales manager; A. G. Koenig, district manager.

Coppus Engineering Corporation

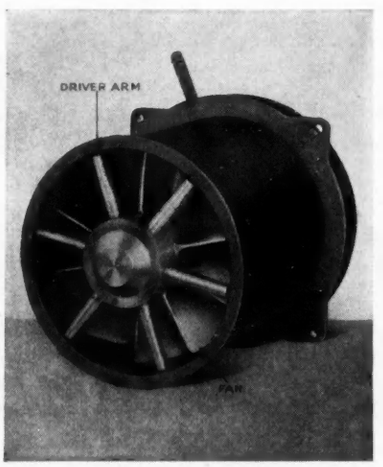
WORCESTER, MASS.

Booths 1146, 1148

EXHIBIT: Dennis "Fanmix" gas burners. Blue Ribbon steam turbine. Blue Ribbon geared turbine. Heat killer. Tank ventilator. Air filters.

NEW PRODUCTS:

"Fanmix" Gas Burners—These burners employ a different principle of mixing gas with air. The air is delivered by a fan which also has several driving arms. The gas flowing into these arms and leaving them through small ori-



Fanmix Gas Burner

fices causes the fan to rotate at high speed. As the gas flow, from the rotating orifice is practically at right angles to the air flow, a very thorough mixture of gas and air is obtained. Practically no excess air is needed for perfect combustion. As the burner discharges a perfect combustible mixture into the combustion chamber, no secondary combustion takes place.

Steam Turbines—Coppus steam turbines have a number of refinements and are now known as "Blue Ribbon turbines." The constant speed governor is of totally enclosed design, without lever connections and an entirely independent excess speed safety trip, having a separate valve body is actuated directly by steam pressure through a pilot valve. Built-in speed reducers are now available and a double reduction unit for driving slow speed equipment is shown at the Exposition.

Tank Ventilator—Coppus tank ventilator, is now available with an explosion proof, Underwriters' Laboratories approved motor for Class D, hazardous conditions. This explosion proof motor can be operated on either A.C. or D.C. On account of the high motor speed of this special design motor a high fan speed is obtained so that this very compact ventilator delivers a large volume of air at high velocity.

Air Filters—Coppus Type FD air filters, used on internal combustion engines, air compressors, rotary blow-

ers, etc., have an improved method of holding the filter cells in the filter housing by using clamps and wing nuts which provide for easy removal of the cells. The filter is an all-wool felt having an unusually high cleaning efficiency.

REPRESENTATIVES: Edwin L. Dennis, chief combustion engineer; M. van Stappen, sales manager; R. W. Bier, district representative; Garrett Phillips, sales engineer.

Tuboscope Internal Tubular Inspection Service Oilfield Machine and Supply Company

HOUSTON, TEXAS
Booth 1065-A

EXHIBIT: Tuboscope.

NEW PRODUCTS:

Tuboscope—This optical instrument is designed for internal inspection of oil field tubular goods, such as drill pipe, drill collars and Kellys, under low power magnification. It is composed of an illuminating device, a wide angle objective lens, and a series of intermediate lenses located serially in tubes, through which the primary image is transmitted to an eye-piece outside the article being inspected. By means of this instrument, an operator can examine minutely the entire internal surface of tubular goods, locating cracks or flaws which may be present, and study the effects of fluid wear and corrosion.

REPRESENTATIVES: From Oilfield Machine and Supply Company—E. K. Lane, president; M. M. Verheul, secretary-treasurer; and D. P. Tarpenning, sales representative. From Tuboscope Internal Tubular Inspection Service—Fritz Huntsinger, owner, and W. H. Hopkins, operator.

Scintilla Magneto Division (Bendix Aviation Corp.)

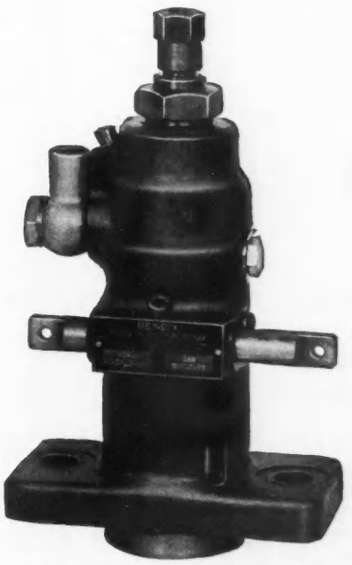
SIDNEY, NEW YORK
Booths 143, 145

EXHIBIT: Bendix high tension magnetos. Low tension magnetos for stationary engines. Low tension battery ignition. Distributors for stationary engines. Spark plugs. Fuel injection equipment.

NEW PRODUCTS:

Low Tension Ignition Systems—Bendix low tension ignition systems are not modified automotive magnetos but are new equipment developed to meet the requirements of large stationary and industrial engines. The magneto generates low voltage alternating current and distributes it still at low voltage to individual transformer coils, one located adjacent to each spark plug. A short lead, often less than 12 inches long, conducts the high tension current from the coil to its spark plugs. The advantage of this type of system lies in the fact that low voltage current can be conducted long distances with very little loss of strength. High tension current, however, is subject to capacity losses which become serious when long cables have to be used.

Fuel Injection Pumps—Bendix fuel injection pumps are made in single flange mounted units to be driven through tappets from the engine cam shaft. They are supplied for plunger diameters of 10 mm to 18 mm, the stroke being 15 mm in all cases. Nozzle



Bendix Fuel Injection Pump

holder assemblies are supplied in a variety of lengths ranging from 80 mm to 250 mm. A unique feature is the use of individual spray tips, instead of having the spray orifices drilled directly into the nozzle body. This design gives extra protection to the closely fitted nozzle needle and its seat. A further advantage is the ease with which tips can be replaced if a change in fuel requires different spray characteristics to obtain best engine performance.

REPRESENTATIVES: A. J. Poole, Carl Sorenson, J. T. Lansing, sales engineers; A. T. Bremser, fuel injection equipment engineer.

M. O. Johnston Oil Tools, Inc.

M. O. Johnston Oil Field Service Corp.

LOS ANGELES, CALIFORNIA
Booths 1125, 1127

EXHIBIT: Formation tester. Depth formation recorder. Johnston Rotary "Vibro-Jar," Portable tool joint refacer. Packers (Securaloy steel). Bryan flow valves. Rathole reamer and washer.

NEW PRODUCTS:

Rathole Washer and Redrill Bit—The Christian Rathole Reamer and Washer is designed to eliminate unnecessary round trips made for reaming and washing the rathole in preparation for testing in soft formations where it is unnecessary to ream a tapered seat, thus reducing the time between the opening of the formation and the beginning of the test.

"Securaloy" Packers—An important development in Johnston formation testing service is that the testing tool is now available with packer and all test zone equipment made of "Securaloy"—the drillable oil field metal. This drillable portion of the tool includes the safety joint, packer, perforated anchor and pressure recorder mechanism. With this additional protective feature, the Johnston tester has made another important step ahead. "Securaloy" packers and test zone equipment are available in rathole, combination or casing packers.

Johnston "Vibro-Jar"—The Johnston "Vibro-Jar" incorporates an entirely new principle in jarring and fishing operations—that of constant vibration, coupled with a steady strain on the fish. The power of the blow is entirely independent of the strain on the drill pipe, which is utilized only to maintain a steady tension that encourages an upward movement of the fish.

Revolutionary in design, the "Vibro-Jar" is the result of over three years of intensive research and experiment spent to develop a tool that would efficiently and effectively release pipe stuck in the hole. Both the construction and operation of the jar are extremely simple. The jar consists essentially of three parts—an outer barrel threaded directly to the fishing tool, a half-threaded inner mandrel that rotates with the run-in string, and a spring-actuated striking member that delivers the blow.

REPRESENTATIVES: M. O. Johnston, president; T. A. Andrew, chief engineer; W. F. Bettis, export manager.

Martin-Decker Corporation

LONG BEACH, CALIFORNIA
Booth 1007

EXHIBIT: Quintuplex drilling control instrument. Individual mud pump gauge. Unitized mud pump gauge. Clipper weight indicator. Cable tension indicator. Measuring line weight indicator. Pump Dynamometer. Pull rod Dynamometer. Pulsation damper. "Special" illuminated weight indicator. Slim-hole weight indicator. 1,000-lb. unitized mud pump gauge. Radium recording thermometer.

NEW PRODUCTS:

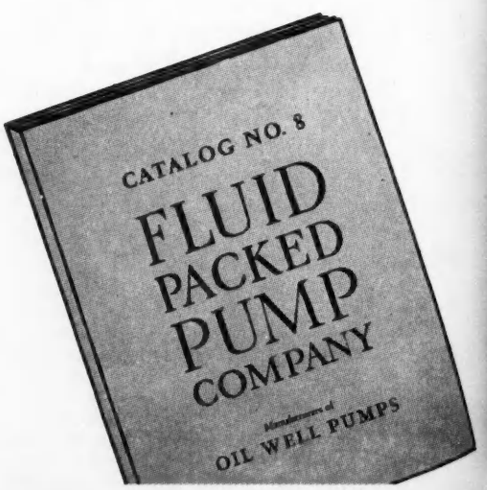
"Special" Illuminated Weight Indicator—Incorporates in one compact unit all important proper weight control features where permanent records are not required. The dial face of this portable weight indicator is extra large and has built-in illumination, giving complete 24-hour visibility from any place on the rig floor. Ten interchangeable dials nested within the case, each with deeply etched numerals, give direct readings in pounds or points on all jobs. In addition to the standard

LOOKING FOR BETTER PUMPS?

. . . THEN SEE THE ENTIRE FLUPACO LINE AT THE SHOW!

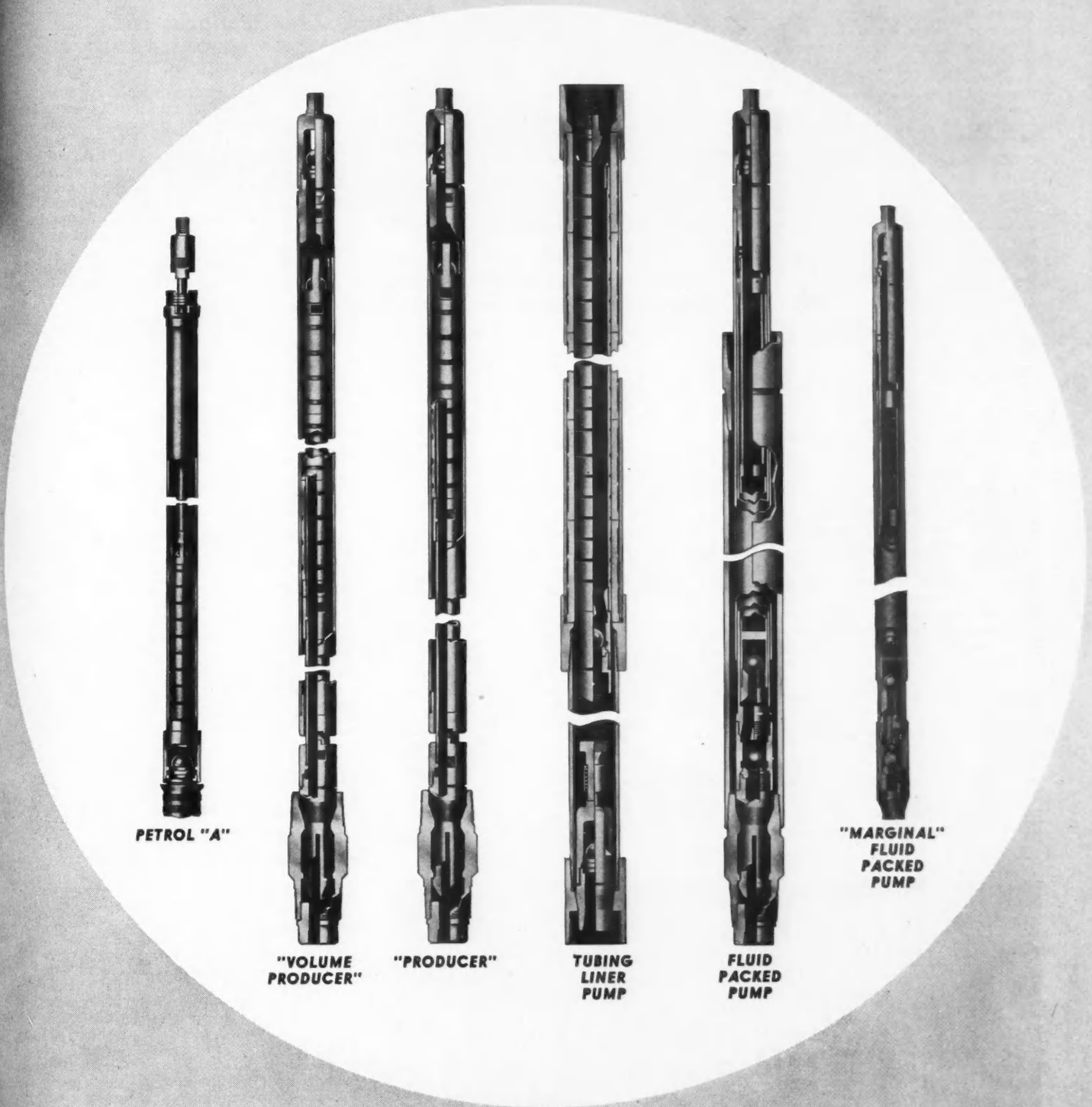
Our search for ways and means to improve the line of Flupaco pumps never stops. Refinements in design are suggested by the observation of thousands of pumps in service. Improvements in materials, heat treatment, machining, testing and inspection are constantly being worked out and applied. As a result, the pumps we exhibited at last year's show were better than those of the year before — and the Flupaco Line you will see at Houston now presents all the new, important developments of recent months.

Efforts to progress are not confined solely to making BETTER PUMPS; we are continually improving our service and engineering organization as well. Our representatives make a close study of the pumping conditions encountered in their territories. They can make practical suggestions based on first-hand knowledge when a pumping problem arises — and they can offer the RIGHT pump as an economical, effective solution.



Come to Booths 309 and 311
Let's become acquainted

FLUID PACKED



PUMP CO.

BOOTHS 309 & 311 AT HOUSTON

gauge hand, the "Special" has a supersensitive gauge hand for vernier accuracy in fishing, tapping, etc., and the oversize mechanism has capacity to handle wells deeper than any thus far drilled. The instrument is weatherproof and tamper-proof, requires no pumping or priming, and is fully temperature compensated.

Slim-Hole Weight Indicator—This instrument is especially built for use in shallow fields, with either light stationary outfits or portable equipment. It has a capacity of 150,000 pounds and can be used with lines from ⅝ inches to 1¼ inches in diameter. Two features, a diaphragm unit built directly into the gauge case, and a newly designed "C" clamp, makes the unit compact and eliminates the use of shims or other adjusting devices when changing to different sized lines. Five interchangeable dials calibrated in points on each side (giving ten dial faces) provide direct readings on all commonly used string-ups.

1,000-Pound Unitized Mud Pump Gauge—This instrument, which is adaptable for use on low pressure mud lines in shallow drilling, incorporates features of the larger Unitized Mud Pump Gauge with the exception that it has lower capacity and does not incorporate the vernier-retard feature. It is a companion instrument to the Slim-Hole Weight Indicator described above. Capacity is limited to pressures less than 1000 pounds, and readings are distributed over 360° circumference of the dial face. Large numerals insure great visibility, and the built-in pulsation damper smooths movement of the gauge hand and prevents destructive fluid surges.

Radium Recording Thermometer—This instrument makes complete records (not just the maximum) of oil well temperatures at various depths during one run. The tipped pointer does not touch the chart, and therefore, there is no lag or drag due to friction. Position of radium tipped pointer is recorded on sensitized paper. Pointer is actuated by a Thermal element with an accuracy of half of one degree at all temperatures. Radium-tipped pointer gives a positive friction-free method of charting temperature variations. The instrument can be used on any drilling or producing well, and can be operated by anyone familiar with temperature recording equipment.

REPRESENTATIVES: E. L. Decker, secretary and treasurer; L. A. (Pete) Crawford, Mid-Continent salesman; and Jack Clemens, Mid-Continent salesman.

Janney Cylinder Company

PHILADELPHIA, PENNSYLVANIA
Booths 409, 411

EXHIBIT: Diesel engine liners. Pump liners of "Pressure-tite," Ferrodur, and "Ni-Resist" irons, and "Suphard-Chrome" steel. Shaft sleeves for centrifugal pumps. Hot oil pump plungers. Acid-resisting bronze. Pump liners, sleeves and bushings. Stainless steel cylinders.

NEW PRODUCTS:

Diesel Engine Liners—These Diesel engine liners, with 16-inch honed bores and a length of 60 inches, are of centrifugally cast "Pressure-tite" iron, an iron of long life.

Steel Pump Liners—The new Suphard-Chrome steel pump liners, hardened to 500 plus Brinnell, have honed bores and ground outside diameters. These are acid and abrasion resisting.

Ground Shaft Sleeves — These sleeves for centrifugal pumps are of Suphard-Chrome steel, 500 plus Brinnell, and Worthite, acid resisting steel.

Hot Oil Pump Plunger—This plunger is of Suphard-Chrome steel, 500 plus Brinnell, and is both acid and abrasion resisting.

REPRESENTATIVES: Robert O. Ayres, Ayres Engineering Company; Charles R. Spare, Janney Cylinder Company.

Janney Exhibit of Products

Oakite Products, Inc.

NEW YORK, NEW YORK
Booths 1308, 1310

EXHIBIT: Miniature model of a storage tank, illustrating paint stripping of exterior surfaces before reconditioning by Oakite Hot Flow-On Method, and cleaning interior surfaces. Illustrations of methods and materials designed to increase operating efficiency and maintenance of Diesel engines, air compressors, oil coolers, preheaters and similar heat exchanger equipment through the removal of hard water scale and rust accumulations and carbonaceous oil and grease deposits.

REPRESENTATIVES: George Seib, New York office; J. C. Leonard, Chicago and Southwestern division manager; A. W. Schulte, Dallas representative; Wm. A. Dowen, Houston representative; and J. R. Whyte, Tulsa and Oklahoma City representative.

Pratt and Whitney Division Niles-Bement-Pond Company

HARTFORD, CONNECTICUT
Booths 1538, 1540

EXHIBIT: Thread gauges for A. P. I. casing, tubing, line pipe, drill pipe, sucker rods and tool joints. Measuring equipment, including measuring machine, Supermicrometer, Electrolimit Comparators, and size blocks. Reamers. Taps. Hobs. Dies.

REPRESENTATIVES: R. E. Laffler; L. E. Schultz; and S. G. Johnson.

Oil Country Specialties Manufacturing Company

COFFEYVILLE, KANSAS
Booths 1413, 1415

EXHIBIT: O. C. S. 5-horsepower double reduction pumping unit.

NEW PRODUCTS:

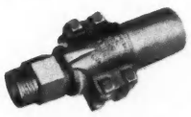
O. C. S. 5-horsepower Double Reduction Pumping Unit—This unit is a miniature of all O. C. S. Polly type pumping units. It is identical in design, with the same accuracy and the same quality as the larger sizes up to 100 horsepower. The one difference in principle of this unit is that it is provided with both a centrifugal and beam balance. This combination balance for a small sized unit provides the unit with both the advantage of the centrifugal balance and the beam balance. According to the manufacturer, the efficiency of roller bearings and roller chain provides this unit with the high efficiency and assures low power cost, particularly when electric power is purchased.

REPRESENTATIVES: D. R. Brown; D. C. Myers; C. B. Morton; A. G. Evans-Lombe; F. D. Stanley; R. J. Hansen; Ben Palamountain; Joe Kilchenstein; Tom Scott; Melvin L. Dick; and Jack Ross.

Again...DIXON takes the lead in the improvement of Rotary Hose Couplings!

1917
"BOSS"
Washer Type

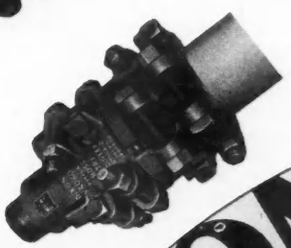
1922
"BOSS ACME"



1923
"BOSS XX"

1925
"BOSS DUPLEX"

1928
"BOSS TRI-DUPLEX"
STYLE T-D



1934
"BOSS GIANT
TRI-DUPLEX"
STYLE Z

Here it is—the new "Dixon" Built-In Rotary Hose Coupling—backed by 22 years of leadership in the development of hose couplings for the oil producing industry.

Knowing that Dixon has always led the field in the improvement of Rotary Hose Couplings, you will naturally expect this newest Dixon product to be *way in advance* of any other coupling of the "built-in" type. It is! In both design and construction, it represents a decided departure from the common practice of a frictional or compression anchorage.

Consisting of three major parts—body, segments and head—the "Dixon" Built-In Rotary Hose Coupling is readily and simply applied to any standard make of rotary hose, lending itself naturally to the reinforcing members of the end section of the hose and coupling proper.

The definite advantages of this new "Dixon" Built-In Rotary Hose Coupling are immediately apparent. Smooth, uninterrupted flow throughout entire hose and coupling, giving greater volume of fluid at tool and also reducing vibration. Natural reinforcement for end section of hose. No coupling leaks—hose is mechanically anchored to coupling body by looping and clamping of wire members. Completely adaptable to any standard rotary hose. Considerably lighter in weight than detachable type couplings. Head portion of coupling is replaceable without damage to hose or coupling body. No back leaks in the hose body to rust out metal members.

The new "Dixon" Built-In Rotary Hose Coupling will be demonstrated at the Oil World Exposition, Booths 533-535, Houston, April 24-29. Be there—and get all the facts about the Rotary Hose Coupling you've been waiting for!

and now... The "DIXON" BUILT-IN

MAIN OFFICE AND FACTORY PHILADELPHIA

DIXON VALVE & COUPLING CO.

BIRMINGHAM
LOS ANGELES
HOUSTON

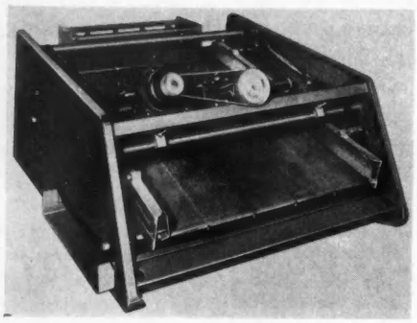
The Jeffrey Manufacturing Company

COLUMBUS, OHIO
Booths 659, 661

EXHIBIT: Oil well chains. Mud screens (shale shakers). Feeders.

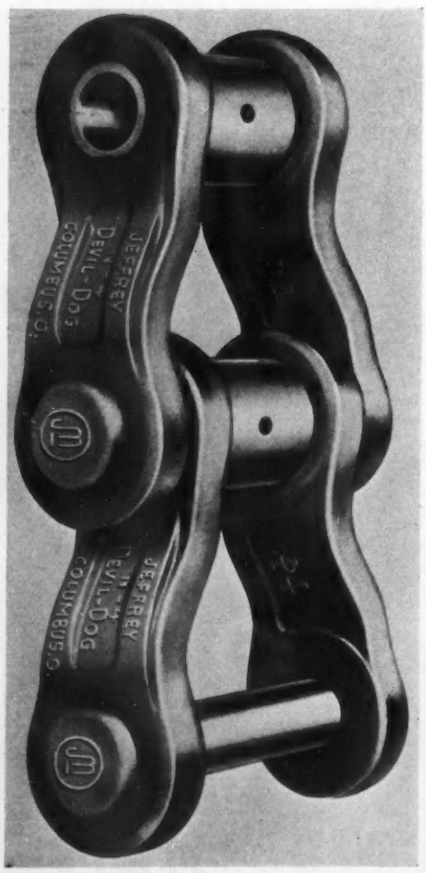
NEW PRODUCTS:

Vibrating Mud Screen—This is a new type shale shaker having a uniform predetermined straight line motion over the entire deck. The amplitude of vibration cannot be altered by either a heavy or light load. Screening and conveying are equally efficient, and



Jeffrey Mud Screen

the entire screen deck is alive. It has a leak-proof mud outlet constructed like a drawer. A one-half horsepower motor is sufficient to operate the screen under any conditions.



Jeffrey Devil Dog Chain

Oil Well Chains—Jeffrey Oil Well chains bearing the trade names of Devil Dog, Rotor Chief and Ranger are precision built from the finest alloy steel adaptable to chain construction. They conform in every respect with A.P.I. dimensional standards. Sidebars are offset giving to the chains the necessary resilience to absorb shock, a most important feature for oil field operations. Offset construction facilitates coupling and permits the removal or replacement of any number of links. In these chains the mirror-like finish of their bearing surfaces eliminates initial stretch.

REPRESENTATIVES: N. E. Salsich, vice president and general sales manager; C. R. Heller, vice president in charge of conveyor sales; L. E. Brill, products sales manager; T. P. Burke, manager Houston district; H. F. Adrian, salesman.

Grant Oil Tool Company

LOS ANGELES, CALIFORNIA
Booth 1580

EXHIBIT: Grant roller bearing cutter reamer. Grant hydraulic two-blade expansion wall scraper. Hydrostatic bailer. Hydrostatic perforation cleaner. Underreamer and rotary hole enlarger. Lightning change cement head. Circulation head. Liner puller.

NEW PRODUCTS:

Grant Adjustable Liner Puller—This tool, for removing liners from mud pumps, grips any type or size of liner, and its pull is direct and concentrated. It can be inserted in the liner, and if it is desired to remove the liner puller without pulling liner, screw is rotated to the right until puller feet collapse to a diameter smaller than the inside of the liner, when the tool may be removed. Expansion or contraction of the puller feet is achieved by rotating the puller screw in the proper direction. The liner puller may be removed from the pump liner at any time during pulling operations.

REPRESENTATIVES: John Grant, president; T. J. Mullins, in charge of Mid-Continent sales; and Norman H. West, in charge of Houston office.

Jon R. Long
Kyner Long Corporation

FORT WORTH, TEXAS
Booth 164

EXHIBIT: Jon R. Long will display the following: Nu-Alloy balls and seats; Nu-Alloy drops and seats; KA-Alloy balls and seats; KA-Alloy drops and seats; Nickel alloy balls and seats, and drop seats; Nu-Steel balls and seats, and drops and seats; Wire line stuffing boxes; Seating nipples; Stressproof tong pins; KA-Alloy polished rods; Stressproof polished rods; Nu-Alloy polished rods; Peco polished rod clamps; KA-Alloy working barrel valves; Silvertube working barrels; Insert pumps; Polished rod stuffing boxes; Rod line clamps; Balrenu check valves; Stressproof S/R subs; Oversize standing valves; Fluid expansion valves; Valve pullers; Slotted nipples; Rod sockets; Wrist pins; Ring type valves; Znickle alloy balls and seats; JRL floating pin type standing valve puller; JRL polished rod stuffing box; JRL pull rod clamps.

Kyner Long Corporation will display the following: Boynton surface control; Aucoin flow valve; Boynton intermitters; Hays flow valves.

NEW PRODUCTS: From Jon R. Long—Znickle alloy balls and seats. JRL floating pin type standing valve puller. Stressproof sucker rod subs and polished rods. Stressproof tong pins. JRL polished rod stuffing box. JRL pull rod clamps.

All equipment manufactured and sold by the Kyner Long Corporation is new.

REPRESENTATIVES: R. R. Kyner; Jon R. Long; Earl R. Waddell; E. B. Rainey, East Texas representative; Clyde Kyle, Houston representative; Bill Wright, West Texas representative; and Ernest Goldschmidt, Houston representative.

Security Engineering Co., Inc.

WHITTIER, CALIFORNIA
Booth 1213

EXHIBIT: Products and accessories made of "Securaloy," and examples of applications for "Securaloy" pipe. The Sievers Reamer is exhibited in Wilson Supply Company's booth.

NEW PRODUCTS:

Securaloy Metal Products—This is a drillable oil field metal. The display consists of several new tools made of Securaloy, with sections cut away to illustrate their construction and operation. The entire line of Securaloy perforated screen pipe is shown, as well as sections of drillable pipe showing perforations made by both the gun and mechanical method. A special feature is the showing of various manufacturers' canvas wrapped packers made of Securaloy.

REPRESENTATIVES: W. E. Sievers, vice president; Al Farrow, sales manager; H. S. Sutton, Houston division manager; L. G. Robinson, assistant manager at Houston.

The Louis Allis Co.

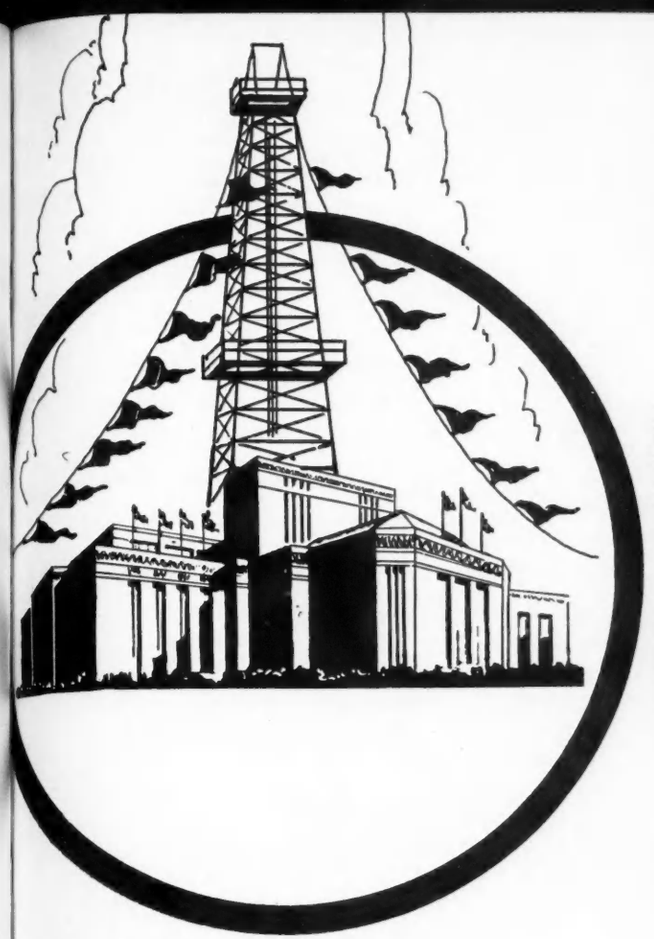
MILWAUKEE, WISCONSIN
Booth 1216

EXHIBIT: Electric motors.

NEW PRODUCTS:

Explosion-Proof Motors—Advantages claimed for this new motor are modern styling, solid cast iron construction, easy bearing inspection, cartridge type bearings, reinforced end bells, extra large conduit box, ease of connection, fan guard and grille, easily removable fan and rugged fan construction, sensible front end construction, extra heavy steel cover, ribbed housing construction, extra strength, grease or oil lubrication, removable lifting lugs, important bearing guard, and al-weather construction.

REPRESENTATIVE: J. D. Brance.



WHEN YOU COME TO HOUSTON TO ATTEND THE IL WORLD.. EXPOSITION APRIL 24th-29th

You will find

THE NORVELL-WILDER MAN

waiting to give you

A HEARTY WELCOME

at the

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AND MAKE YOURSELF AT HOME in the spacious reception room of the Norvell-Wilder Section of Booths.

CONVENIENTLY LOCATED NORVELL-WILDER STORES

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BEAUMONT, TEXAS
HOUSTON, TEXAS
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CORPUS CHRISTI, TEXAS
MONAHANS, TEXAS
CONROE, TEXAS
SHREVEPORT, LA.
LAKE CHARLES, LA.

●

OFFICES:
DALLAS, TEXAS
TULSA, OKLA.

Norvell-Wilder Supply Company

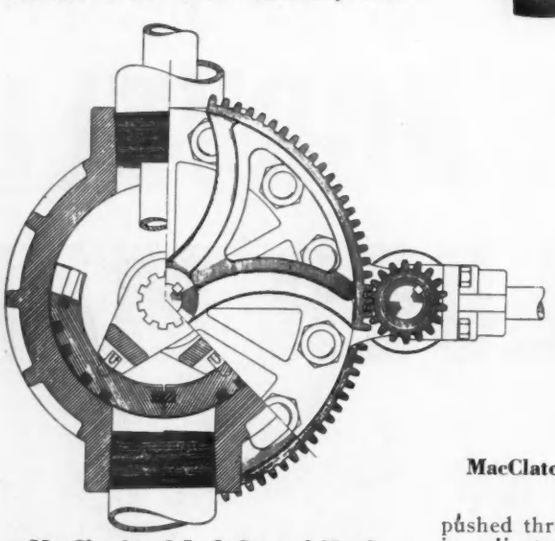
MacClatchie Manufacturing Company

COMPTON, CALIFORNIA
Booths 1201, 1202

EXHIBIT: Hardened and ground slush pump liners with slip-on glands. "Wearever" pump pistons for slush pumps, etc. Hardened and ground piston rods. Adjustable and non-adjustable flow nipples. "Airflote" and streamline slush pump valves. Mud pump valve seat pullers and liner pullers. Quick change cement heads. Quick change unions with swivel ells. Plastic packed hydro-seal plug valves. Regular hydro-seal plug valves. "Gearomatic" catheads. Three-blade hydraulic wall scrapers. Rotary underreamers. Economy reamer and straight hole guide. Weight indicator. All-steel sliding platform. Three-way monkey board.

NEW PRODUCTS:

MacClatchie 2 in 1 Control Head—The MacClatchie 2 in 1 control gate is a fast, positive acting blowout preventer. It consists of one set of gear operated revolving doors so designed that when rotated in one direction they will pack off on one end around the drill pipe, and when rotated in the other direction will shut off the open hole, thereby giving two fast, positive acting controls incorporated in one tool. Having the two tools in one naturally saves



MacClatchie 2-In-1 Control Head

on cellar space and installation time. This control head, no matter how long it has stood idle, will immediately operate, as there are no working parts inside to become clogged with mud, gravel or sand. It is furnished for hand operation or power operation.

MacClatchie Plastic Packed Hydro-Seal Plug Valve

"Plastic Packed" Hydro - Seal Plug Valve—This is a new development in plug valve construction. It is the result of years of research spent to develop a more efficient, more serviceable and more economically operated plug valve that would give equal efficiency under all oil field and refinery operations. In fact, so perfect is the sealing and packing arrangement of this new model plug valve that it gives superior performance on all kinds of installations, whether used for chemicals, gas, gasoline, mud, oil, etc., it is claimed.

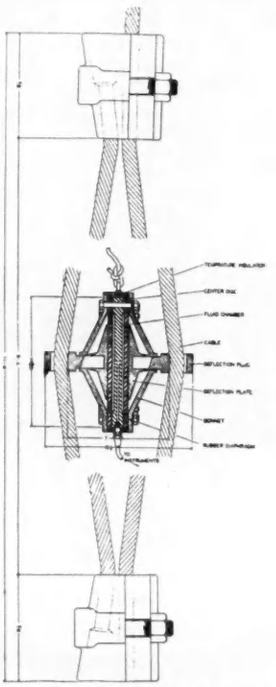
Universal Liner Puller—The Universal liner puller is sturdily constructed of high grade heat treated steel to withstand the severe usage. It is especially designed to pull hard-surfaced liners, upon which slip type pullers will not grip. Operation of the puller is simple. The bolt with the puller legs is merely

MacClatchie Universal Liner Puller

pushed through the liner and the yoke is adjusted over the cylinder head studs. The legs lock automatically in place on the end of the liner, and simply tightening the combination nut against the yoke transmits a strong, steady pull on the liner.

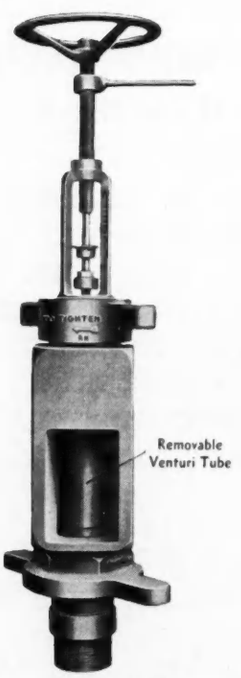
Weight Indicator—The MacClatchie weight indicator incorporates a new type double action hydraulic diaphragm unit, which is suspended freely in a force parallelogram without any possibility of mechanical or frictional losses. This construction insures a positive, accurate and sensitive reading under all types of operation, the manufacturer states.

MacClatchie Flow Nipple—The new improved design shown is for extreme high pressures. Can be furnished for working pressures up to 5000 pounds,



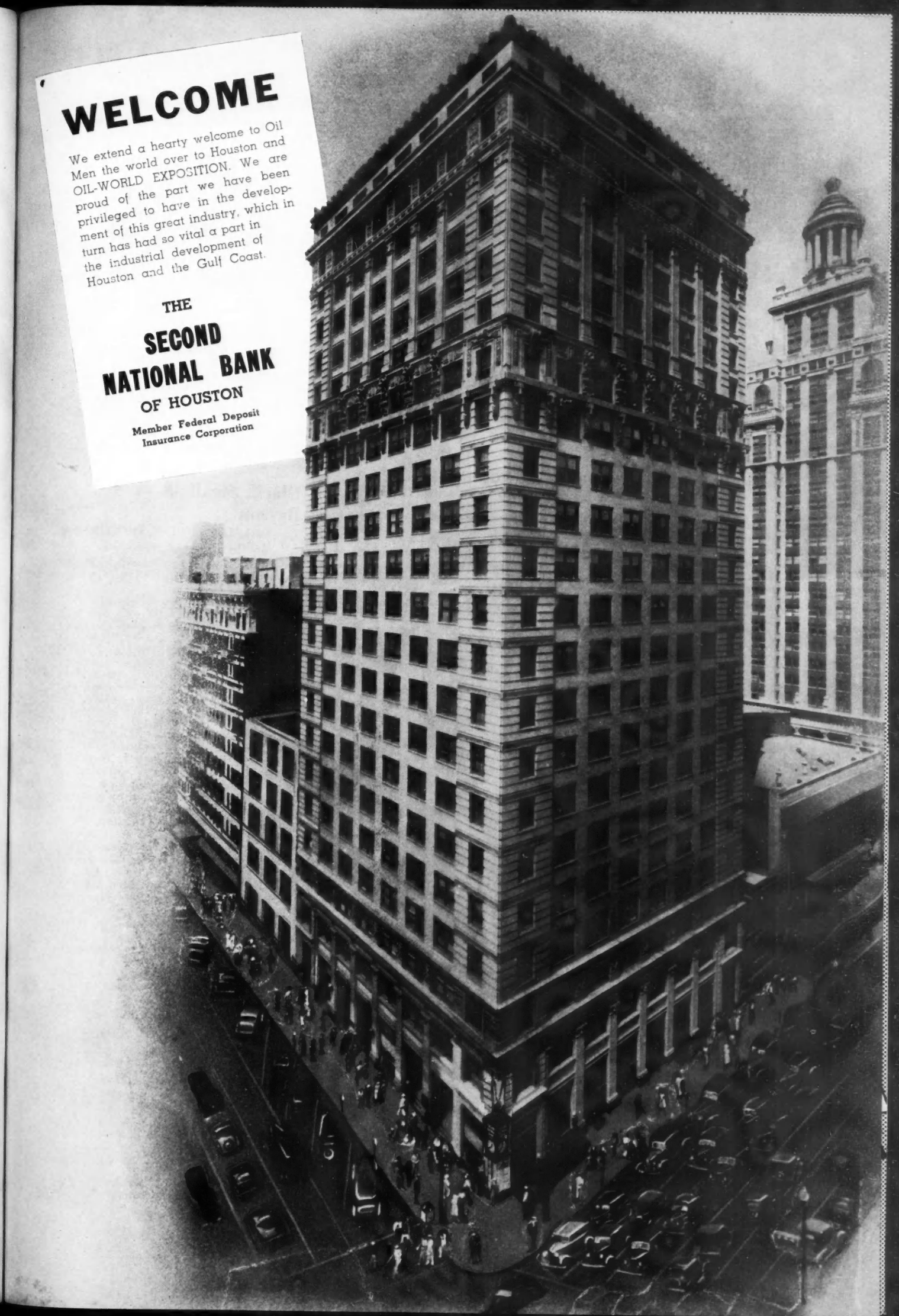
MacClatchie Weight Indicator

test pressure to 10,000 pounds. Has A.P.I. steel ring gaskets for sealing the venturi tube. Also the yoke joints. Venturi tube or yoke section can be easily and speedily removed as hammer units are used on joint connections. It is adjustable.



MacClatchie Flow Nipple

Quick-Union Swivel—The MacClatchie "Quick-Union" swivel permits instant pressure-tight pipe or hose connections, plus free-swiveling convenience. It embodies all the features of MacClatchie quick unions, enabling the


WELCOME
We extend a hearty welcome to Oil Men the world over to Houston and OIL-WORLD EXPOSITION. We are proud of the part we have been privileged to have in the development of this great industry, which in turn has had so vital a part in the industrial development of Houston and the Gulf Coast.
THE
SECOND
NATIONAL BANK
OF HOUSTON
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operator to connect or disconnect pipe or hose with speed and maximum safety. The built-in swivel allows continuous rotation without the danger of loosening threads, kinking hose or

MacClatchie Quick-Union Swivel

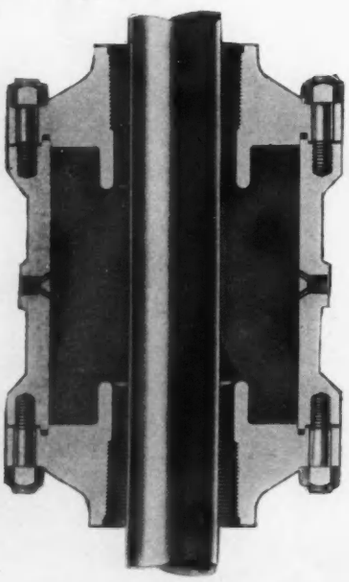
cross threading. Double rows of hardened steel ball bearings carry the entire load of the quick-union swivel and hold all parts in perfect alignment to prevent fluid leakage. It can be used for all make-and-break connections.

REPRESENTATIVES: J. Warren MacClatchie, president; W. O. Ussery, Mid-Continent manager; O. G. Baker, Clyde Compton, H. H. Foster, sales department.

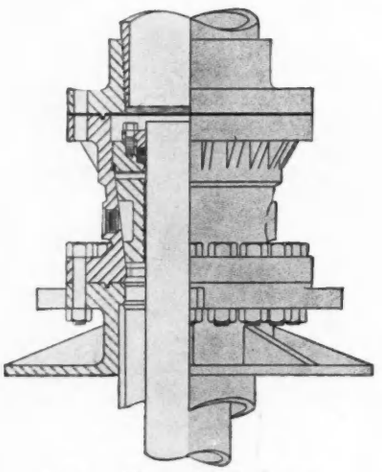
Regan Forge and Engineering Company

SAN PEDRO, CALIFORNIA
Booths 404, 406, 505, 507

EXHIBIT: Combination casing hook. Type K blowout preventer. Full size Regan 121 narrow type traveling block and heavy duty crown block. Type EH crown block. Type BG-4 slip suspension casing heads.



Regan Type K Blowout Preventer



Regan Type BG-4 Casing Head Hook-Up

NEW PRODUCTS:

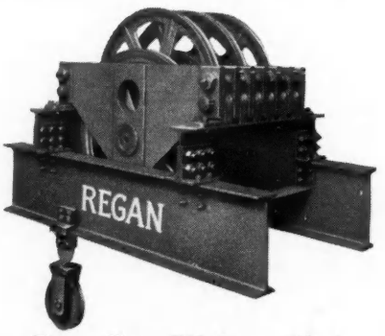
Combination Casing Hook.

Type K Blowout Preventer—Various modifications of this blowout preventer will show means of hooking the unit.

Regan Casing Head—New hookups of this casing head, including slip suspension type, displayed in cut-away sections.

Regan 121 Narrow Type Traveling Block and Heavy Duty Crown Block.

Regan Type G 121" Traveling Block



Regan Type EH Crown Block

REPRESENTATIVES: T. J. Regan, president and general manager; C. M. Fuller, vice president and sales manager; B. S. Minor, manager of production; W. S. Proctor, Mid-Continent sales manager; E. C. Kirby, sales representative; and Leo Dowse, sales representative.

Black, Sivalls & Bryson

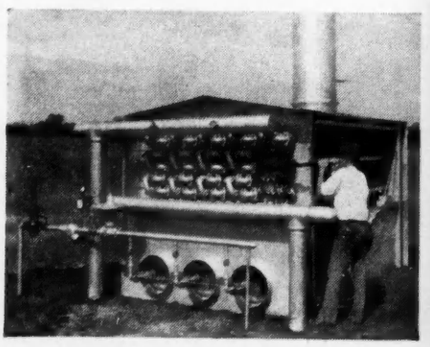
OKLAHOMA CITY, OKLAHOMA
Booths 450, 452, 454, 456

EXHIBIT: Automatic chemical feeder. Safety head. Flow pressure regulator. 1500-pound W.P. A.P.I.-A.S.M.E. code oil and gas separator. 125-pound W.P. A.P.I.-A.S.M.E. code oil and gas separator. Tubular treating heater. Horizontal fire tube heater. Pipe line oil seal valve. "Long John" thief valve. Diaphragm operated back pressure gas valves. Pilot controlled oil valves. Equalizing thief valve. Riser type vent valve. Straight through vent valve.

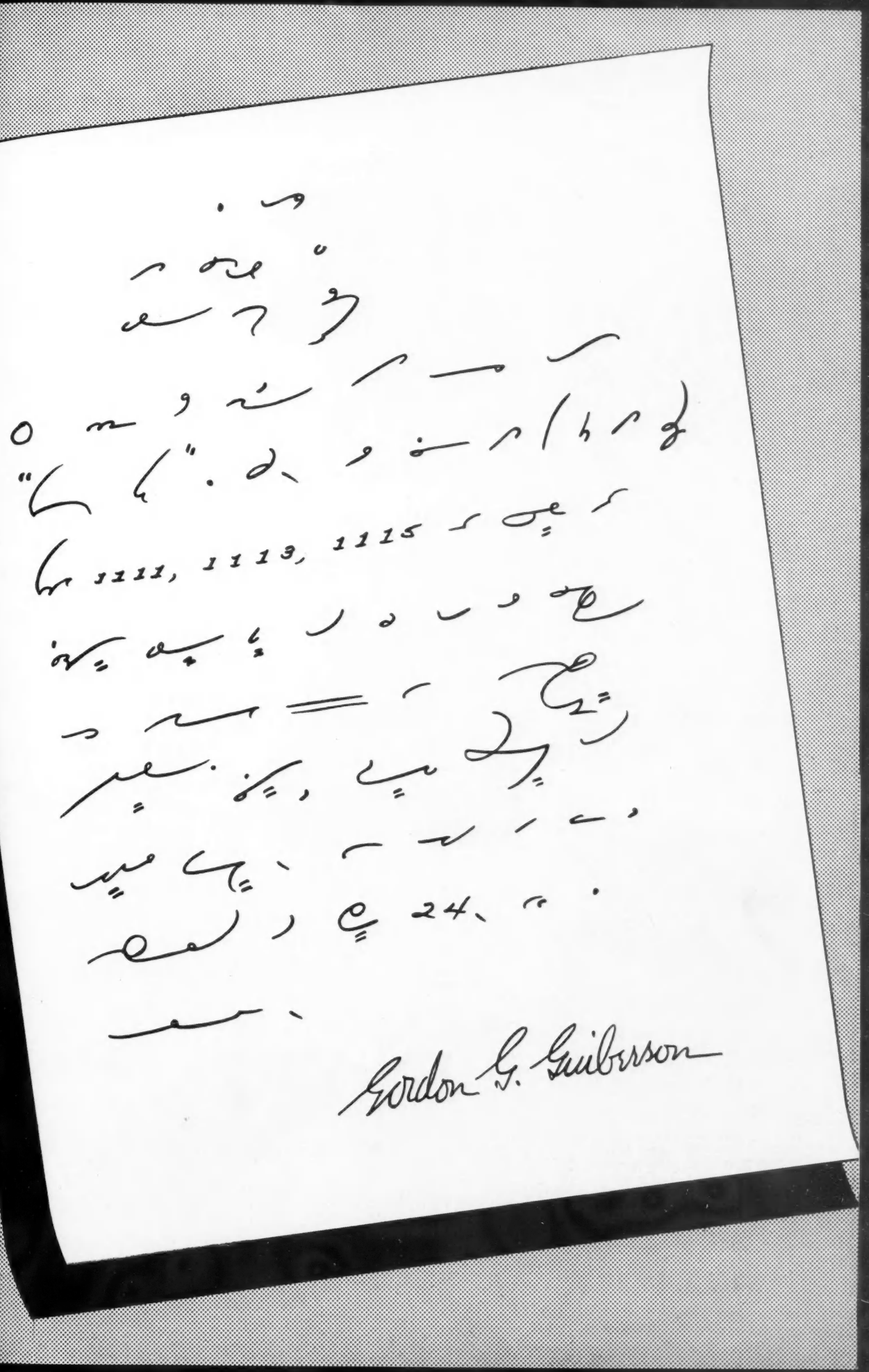
NEW PRODUCTS:

The B. S. &. B. Tubular Treating Heater—This heater is designed similarly to a refinery pipe still and is especially adapted to treat corrosive emulsions. It consists of a pipe coil of 2-inch threaded standard pipe supported by a rugged framework above a spacious firebox. Common red brick is sufficient for insulation. A weatherproof steel housing encloses the entire heater. Removable return bends allow the replacement of a tube in a few minutes. The high pressure gas burner is controlled automatically by the B.S. & B. temperature controller. It can be readily adapted for oil burning, and is made in 20, 40, 60, 80, and 100 tube sizes.

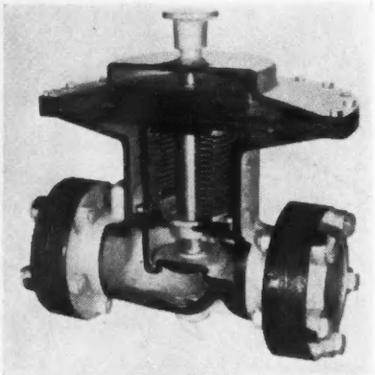
The B. S. & B. Oil Seal Valve—In-



B. S. & B. Tubular Treating Heater


Gordon G. Guibrsson

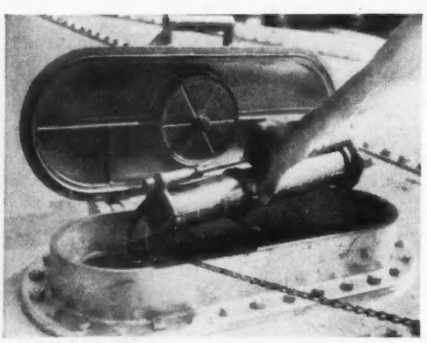
stalled downstream from the pipe line opening in lease storage tanks, this valve will accurately and consistently shut off flow from the tank a few inches above the pipe line opening and prevent



B. S. & B. Oil Seal Valve

air flowing into the pipe line, and also eliminate manual shut-off of the tank. Fully automatic, it is opened by a few inches fluid pressure on the lower side of a large diaphragm which is connected to the valve plug. The valve plug is balanced by a rugged sylphon bellows which nullifies the effect of vacuum downstream. All parts are corrosion proof. It is adjustable and completely streamlined.

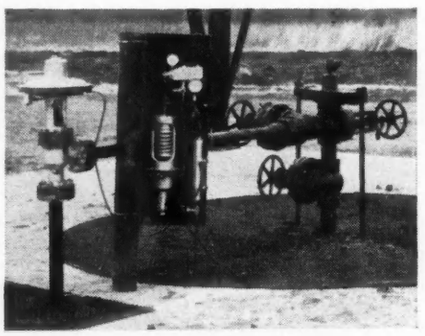
The B. S. & B. "Long John" Thief Valve—Having inside dimensions of 8 by 22 inches this thief valve will allow the longest thief to be handled without spilling oil on the decks of tanks. Its body and base are ruggedly constructed of cast iron, and the 5½-inch vacuum valve in the lid is constructed of stainless steel which makes the valve impervious to corrosion. A suitable thief



B. S. & B. "Long John" Thief Valve

tray is furnished which affords a seat for the thief while the gauger is taking readings and must be shielded from the wind. It can be used on any type field storage tank, and can be made suitable for any common storage tank pressure.

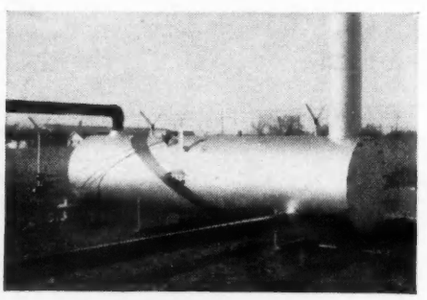
The B. S. & B. Flow Pressure Regulator—Consistent mechanical stop-cocking of wells which eliminates human labor and error, is accomplished by the flow pressure regulator. Increasing casing pressure at the well head trips a small valve in the regulator which in



B. S. & B. Flow Pressure Regulator

turn opens a diaphragm operated valve on the well head flow line. Decreasing casing pressure, due to the flow from the well, operates the regulator in the opposite direction which allows the large valve on the well head to close. The regulator is a valuable aid on high gas-oil ratio wells where manual stop-cocking is not profitable. It is strongly constructed and can be supplied for any pressure.

The B. S. & B. Horizontal Fire Tube Heater—Throughout this heater precautions have been taken to prevent burnouts, facilitate cleaning out, and maintain high efficiency. No horizontal flat plates are used as heating surfaces and this eliminates spots where sediment can collect and cause failure. The



B. S. & B. Horizontal Fire Tube Heater

temperature controller gives efficient automatic control. The whole length of the shell is utilized for settling space, and the overall height of approximately 3 feet makes erection and connection work convenient. Two 4 x 6-inch handholes give adequate opening for cleaning out the heater.

REPRESENTATIVES: A. H. Black, president; Glenn Skinner, vice president; G. Raymond, chief engineer; A. J. Edwards, sales manager; Gurney Peoples, division manager; L. M. Tidd, treasurer; R. E. Stevens, South Texas manager; H. R. Bethel, West Texas manager; H. B. Fessler, Louisiana manager; G. C. Parmlee and George Smith, sales representatives.

Lucey Boiler and Manufacturing Corporation

CHATTANOOGA, TENNESSEE
Booth 1067-A

EXHIBIT: Lucey 150 horsepower, 350 pound working pressure oil country boiler.

NEW PRODUCTS:

Lucey Oil Country Boiler—The Lucey 150 horsepower, 350 pound working pressure, 96-inch all welded firebox boiler is the largest oil country boiler. The fire box contains 178 square feet of heating surface, with a volume of 226 cubic feet. The tubes are held to a short length of 13 feet, providing more effectiveness. Twenty inches of space is provided above the crown sheet for water and steam liberation. By far the most important feature of this boiler is its large fire box, the dimensions of which are 60 inches wide, 96 inches long, and 73 inches high. Inasmuch as approximately 85 percent of the steam is generated in and around the fire box, it is readily appreciated how important it is to have one of adequate combustion space, declares the manufacturer.

The barrel of the boiler is 69 inches in diameter and the total weight is 36,500 pounds. This low weight has been obtained by the use of high tensile steel.

REPRESENTATIVE: W. S. Bassett, manufacturer's representative.

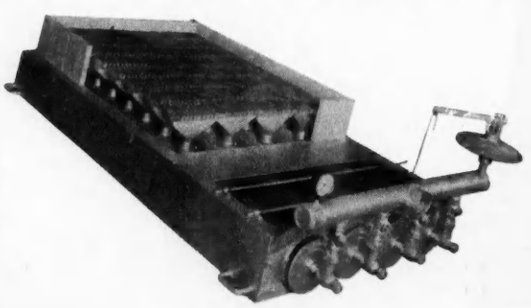
Sonner Burner Company

WINFIELD, KANSAS
Booths 1521, 1523

EXHIBIT: Rock wool. LV-32 oilfield burner. Non-freeze valve. Type "L" heat machine.

NEW PRODUCTS:

Sonner Type LV Air Cooled Burner—The Sonner LV Air-Cooled Burner is a patented upshot type burner for low pressure gas firing. It is of unit construction and for this reason it can be made up readily to fit any and all types of firebox boilers used in drilling and production work in oil fields. The burner is now being equipped with a spring type gas actuated regulator for the control of secondary air. This type of regulator is quite sensitive and can be easily adjusted so that the correct proportion of secondary air is con-



Sonner LV Burner

"This neoprene stripper sure is a hog for punishment!"

Introducing a story of Du Pont neoprene from the files of the Oil Center Tool Company

"ABOUT a year ago we ran 7200 feet of tubing through it on the first well we dug at Evangeline. Then we tubed two 6800-foot holes with it in the Baton Rouge field. Next was that 7700-foot job at Basile, and from there we took it back to Evangeline for a 6500-foot run. That last well at Baton Rouge was a 6700-footer. In all, we've washed in six wells and run about forty thousand feet of tubing through this stripper . . . and it still looks good. That neoprene sure is tough."

* * *

That's still another true story of neoprene's amazing resistance to abrasion, oil, and gas. There are many of them. And that's why the Oil Center Tool Company, of Houston, joins other leading oil well supply houses in standardizing on neoprene for resilient parts. The Oil Center Tool Company uses neoprene in its stripper type tubing heads, in resilient packing rings in their casing heads, and for both regular and stripper types of pack-offs in its blowout preventers.

Neoprene has the strength, resiliency and toughness of rubber—but it is far more resistant to oils, gasoline, sunlight, and even corrosive acids and gases. To insure long life and economy in your oil well equipment, be sure to specify Du Pont neoprene in resilient parts.

• Cross-section of the O-C-T blowout preventer showing design of the neoprene stripper. Neoprene is ideally suited to this use because it resists abrasion even when oil-soaked.

SEE OUR EXHIBIT, OIL WORLD EXPOSITION, HOUSTON, TEXAS, APRIL 24 TO 29

• • •

VISIT THE DU PONT "WONDER WORLD OF CHEMISTRY" EXHIBITS

NEW YORK WORLD'S FAIR 1939 SAN FRANCISCO WORLD'S FAIR

Story and pictures by courtesy of
THE OIL CENTER TOOL COMPANY
Houston, Texas

DU PONT

NEOPRENE

E. I. du Pont de Nemours & Company, Inc.
Rubber Chemicals Div., Wilmington, Delaware

stantly maintained, thus assuring the highest operating efficiencies at all stages of firing from "low fire" to "high fire."

Sonner Non-Freeze Valve — The Sonner Non-Freeze Valve replaces the troublesome "frostbox" thereby eliminating tank valve freeze ups and costly tank connection troubles and delays. This valve is a long barreled valve operated from the outside of the tank. The barrel is threaded and can be screwed into either a wooden or steel tank. The valve seat is protected by being on the inside end of the valve barrel, approximately 6 to 8 inches on the inside of the tank. Construction of the valve is heavy cast iron body with brass stem and standard replaceable valve seats which are obtainable from most supply houses.

Sonner Rock Wool—This company recently completed a modern and efficient rock wool plant on the outskirts of Winfield, and now is producing this product. The plant is located in the heart of ideal rock formations which previous analysis proved would produce an excellent quality of rock wool.

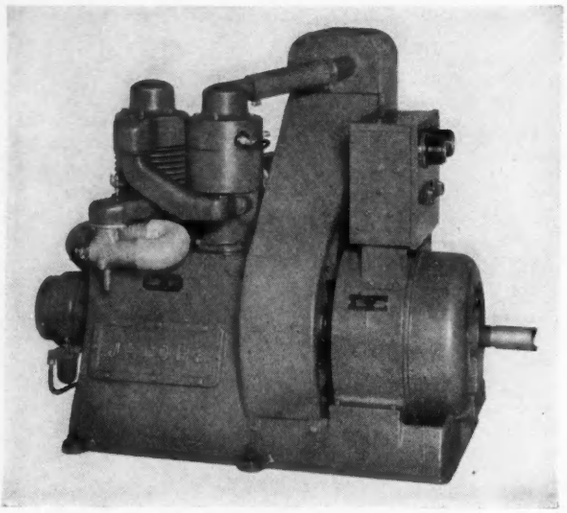
REPRESENTATIVES: P. J. Sonner, president; H. P. McCullough, K. D. Goodwin, Max V. Stocking, S. A. Swoyer, R. L. McCall.

Jacobs Wind Electric Company, Inc.

MINNEAPOLIS, MINNESOTA

Booths 1558, 1560, Annex

EXHIBIT: Pipe line cathodic protection equipment, composed of wind driven electric generating units and gas or gasoline driven electric generating units. A complete unit and parts will be on display.



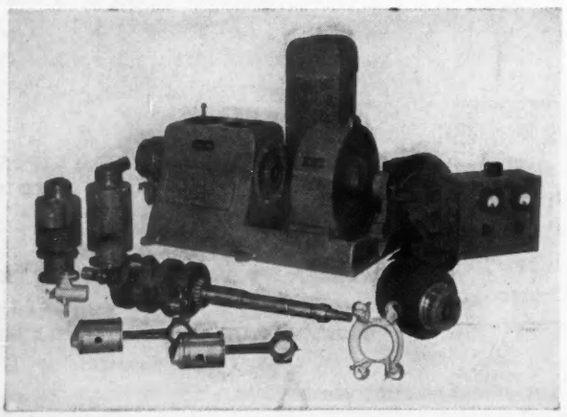
Jacobs Cathodic Protection Generating Engine

NEW PRODUCTS:

Special Cathodic Unit—This unit is a heavy duty, slow speed engine for generating the necessary electricity required in many locations for proper pipe line protection.

After two years of developing and testing, a practical unit of this type for operation on natural gas, oil or gasoline lines, has been engineered and produced. In constructing such an engine, it was thoroughly realized that this unit must operate continuously, year after year, with a minimum of attention and maintenance expense. It has been designed to have very few working parts.

A large, heavy counterbalanced crank shaft carried on Timken bearings, together with the two connecting rods and two pistons, constitute the principal moving parts of the unit. The armature is directly mounted on to the crank shaft. The magneto is directly driven from the opposite end of the crank shaft and is sealed in a special case. The slow operating speed of this engine of 500 to 600 r.p.m., depending upon requirements, is an important feature for long life. It is unique in design and simplicity and has no valves, gears, belts, pumps, or any other working parts except those mentioned above and which are clearly shown in the accompanying illustrations.



Working Parts in Jacobs Cathodic Protection Generating Engine

REPRESENTATIVE: M. L. Jacobs, general manager.

Kibele Manufacturing Company

DALLAS, TEXAS

Booth 1100

EXHIBIT: 3-Step tubing catcher. 2-Step tubing catcher. Reda type tubing catcher. Reda type packer. Boiler feed pump pistons. Tubing swabs. Casing swabs. Valve-in-Head packer. Hot water type pump pistons. Rod stripper. Catchall. Tubing check valve. Release valve.

NEW PRODUCTS:

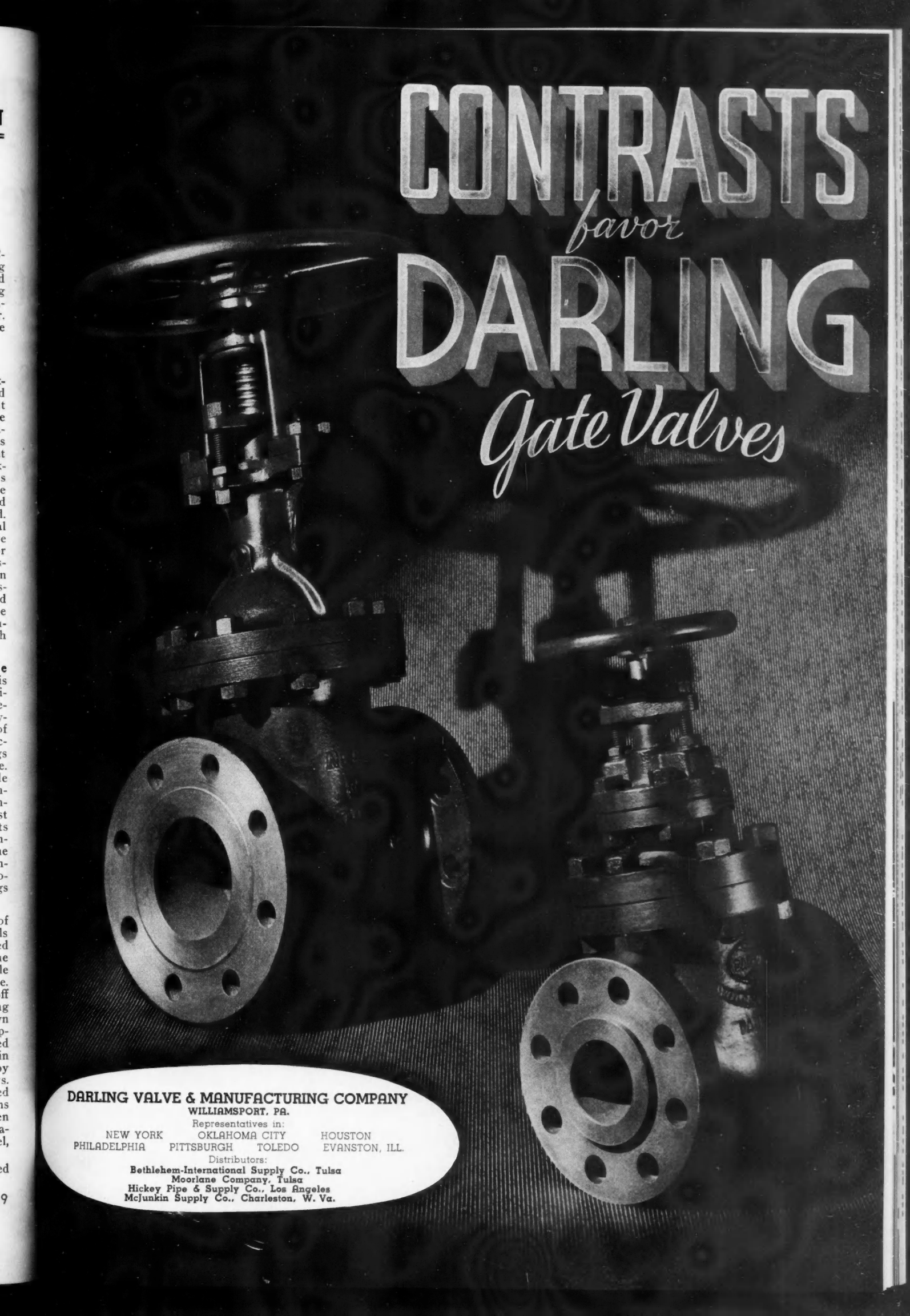
Valve-in-Head Packer Assembly

Valve-in-Head Packer—No slips are used on this packer and it cannot wedge in the casing. It is being featured at present for gas or air lift methods, but is applicable to all packer jobs. The packer has a piston valve in the head that can be locked either open or closed. Cups automatically seal tightly the instant valve is closed and fluid or gas pressure is transmitted to them. As soon as valve is opened pressure on cups is released and packer can be raised, lowered or withdrawn from well with ease.

Hot Water Type Pump Pistons — This piston is designed primarily for use with preheaters on steam-driven rigs. It consists of five parts—body spacer, two packing rings and follower plate. Packing rings are made of a tough, rubber-impregnated fabric compound and will resist the deteriorating effects of extremely high temperatures. The same fabric compound, impregnated with Neoprene, is used in rings for pumping oil.

Rod Stripper—One of the latest Kibele tools is this stripper designed to prevent wear on the rubber packings while running into the hole. Packings are backed off into recess of housing when rods are run down the well. When stripping action is desired the packings are again shoved into place by tightening up screws. Any wear on packings is compensated for in same manner. Remarkable runs without changing packings have been secured in such deep fields as Oklahoma City. Stripper is made of steel, is light and easily assembled.

Catchall—This device can be inserted


CONTRASTS
favor
DARLING
Gate Valves
DARLING VALVE & MANUFACTURING COMPANY
WILLIAMSPORT, PA.
Representatives in:
NEW YORK
OKLAHOMA CITY
HOUSTON
PHILADELPHIA
PITTSBURGH
TOLEDO
EVANSTON, ILL.
Distributors:
Bethlehem-International Supply Co., Tulsa
Moorlane Company, Tulsa
Hickey Pipe & Supply Co., Los Angeles
McJunkin Supply Co., Charleston, W. Va.

anywhere in the tubing string, and consists of a Neoprene cup supported by a bowl and mounted on a coupling. Its purpose, as name implies, is to catch all objects which might by accident be dropped down a well and wedge between the casing and any tool in the hole. Such objects might be pliers, slips, bolts and other small equipment used on the derrick floor.

Tubing Check Valve—This valve fastens in the tubing string and allows the oil to surge up the tubing and then traps it so it cannot return to the bottom. Although the housing for the valve is of steel, the valve itself is made of iron so that it can be broken if necessary to give access to the tubing below it. This valve is particularly adaptable for use in connection with the Kibele Valve-in-Head Packer.

Release Valve—This valve was primarily made for use at Oklahoma City in connection with Reda pumps. A multiple number of openings permits any accumulation of gas in the annular space above the pump to be released therefrom into the tubing. The ball valves seat themselves again automatically when the pressure below has been relieved. This device is equipped with a baffle plate which serves as a paraffin scraper.

REPRESENTATIVES: Eric G. Schroeder, vice president; James Wilson, engineer; and John W. Yerger, sales.

The Wheland Company

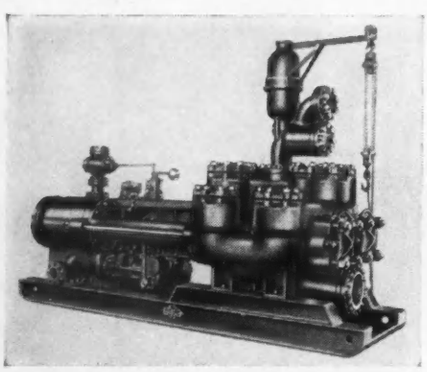
CHATTANOOGA, TENNESSEE

Booths 150, 152, 154, 156, 158, 160, 251, 253, 255, 257, 259, 261

EXHIBIT: H-20000-AA Slush Pump.

NEW PRODUCTS:

H-20000-AA Steam Slush Pump—Designed for high pressure, smooth operation and more mud at reduced steam consumption. Size 15½ x 8 x 20, maximum steam capacity. Recommended for maximum 350 pound steam pressure. A new up-side-down self-draining steam end construction. Construction provides improved cushion, improved thermal efficiency, increased mean effective steam pressure and elimination of broken rings and cylinder heads. Exhaust steam must blow out condensate before leaving cylinder. All liner adjustment screws are on the outside of the cylinder. No screws or threads are in the mud stream. The cylinder is packed by independent gland. Rocker shafts mounted on ball bearings. Rocker shafts and valve link fully enclosed and operate in oil. Improved construction of cylinder head and liner retainer.



Wheland H-20000-AA Slush Pump

REPRESENTATIVES: E. F. Wheland; C. W. Wheland; G. E. Wheland; George E. Campbell, chief engineer; and A. C. Willingham.

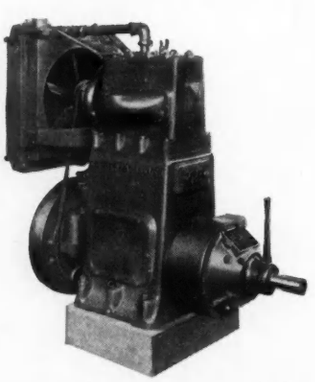
Cooper-Bessemer Corporation

MOUNT VERNON, OHIO
Booth 1529

EXHIBIT: Type G-SC vertical pumping engine.

NEW PRODUCTS:

Vertical Pumping Engine—Primarily for oil field service, this gas engine is also fully adapted to auxiliary and light power needs. Though light in weight, it is a rugged unit. The Type G-SC engine is shipped as a completely assembled unit, with radiator and fan as standard equipment, and is rated 25 to 35 horsepower at speeds of from 600 to 800 r.p.m. It is a two-cylinder, two-cycle unit with bore of 5½ inches and stroke of 7 inches. Overall height is 4 feet 1¾ inches, overall width 2 feet 6 inches, and overall length with clutch 5 feet. Minimum concrete required for the foundation is given as one cubic yard. Starting may be accomplished either by hand or compressed air. Meehanite Metal, of high strength and resistance to wear, is used for all cast iron parts of the engine.



Cooper-Bessemer Type G-SC Vertical Pumping Engine

Among many features claimed by the maker are: low first cost, low foundation and housing costs, extreme portability, long-life construction and design, magneto ignition, full pressure lubrication, clutch or straight pulley drive, slow-speed reliability, tapered roller bearings and low maintenance costs.

REPRESENTATIVES: Representatives of district sales offices and sales engineers.

Well Equipment Manufacturing Corporation

HOUSTON, TEXAS

Real Fire Burner Company

HOUSTON, TEXAS

Boiler Equipment Supply Company

OKLAHOMA CITY, OKLA.

Okadee Company

CHICAGO, ILLINOIS

Hamer Oil Tools Company

LONG BEACH, CALIF.
Booths 1124, 1226, 1228

EXHIBIT: Weco wing unions. Suction unions. Bull plugs. Blanking plugs. Union with male end blanked tapped for pressure gauge. Flow tee. Tubing disc breaker. Tubing disc. Snatch block. Tong line block. Emergency pipe clamp and service saddle. Lewis derrick belt. Stuffing boxes. Oil saver. Gauge cock. Valve speed handles. Lubricators. Canvas windbreaks. Weco Gumbo Buster mud pump valves and seats. Real fire burners. Thompson fusible plugs. Thompson steam gauge protectors. Okadee blow-off valves. Okadee drain valves. Hamer line blinds. Hamer plug valves. Hamer plug valve flow beans.

NEW PRODUCTS:

Weco Combination Stuffing Box Flow Tee and Oil Saver—After the Weco stuffing box, Types C, T and U, has served its purpose for a flow tee and oil saver, a bronze retainer bushing can be furnished bored for 1⅛-inch rod to seal off in the same designed seat in the bottom of the tee or body with the use of 1⅛-inch by 2¼-inch common stuffing box rings, the same follower and cap or crown that was used for the flow tee assembly is now adaptable for a stuffing box.

Weco Type "C" Stuffing Box

The design of the Weco box permits the passage of swabs and sucker rods without distorting any part.

Type "U" Stuffing Box—This type

Now!

WITH THE NEW OTIS ROTATING SCRAPER

Save time and money, eliminate danger of killing your well, by going modern with the new OTIS ROTATING PARAFFIN SCRAPER. Whether you buy the scraper or call for an Otis-trained crew to do the job for you, you'll get a *thorough* removal of paraffin *in less time* and with *safety.*

The new OTIS ROTATING SCRAPER utilizes the energy of the flowing well for its rotating power. It rotates with the flow, yet *doesn't stop the flow.* No danger of your well going dead because of shutdown. And the OTIS ROTATING SCRAPER *can't blow out with the flow*—a system of slips, like those in the Otis Bottom Hole Choke, locks against the tubing when flow exceeds safety limit. Dislodged paraffin is carried out with the flow.

An Otis scraping crew, using this new rotating scraper, set up equipment and *thoroughly scraped two Gulf Coast wells in one day,* removing heavy paraffin deposits more than a thousand feet deep in each well. The same job would have required as long as *one week each* with old-fashioned methods. This is typical of the speed, economy and ease of operation now made possible by this new Otis development. The OTIS ROTATING SCRAPER *pays for itself* on the first two or three tough jobs.

For sale through your supply store or through any branch of Otis Pressure Control, Inc. Available also on a service basis, with trained Otis crew. Further information and price quotations gladly furnished on request.

OTIS PRESSURE CONTROL, INC.

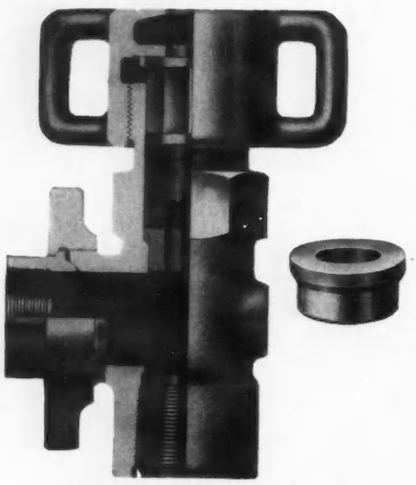
Tower Petroleum Building DALLAS, TEXAS

BRANCHES: Houston, Kermit, Texas; Oklahoma City, Okla.; Hobbs, New Mexico

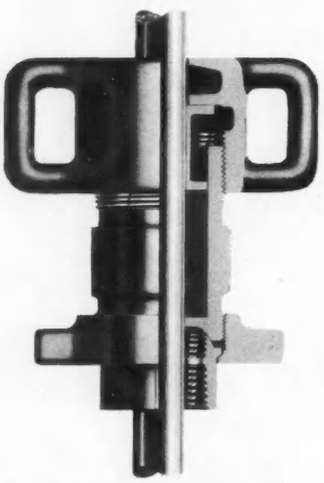
REPRESENTATIVES: Otis Eastern Service, Wellsville, N. Y.; Western Pressure Control, Los Angeles; Daniel Boone Co., Shreveport, La.

OTIS "Don't Kill Your Well" Call OTIS

stuffing box is similar in design to the Types T, B and C, inasmuch as the cap or crown and bronze follower bushing is interchangeable with both of the three types. The bottom of the box is



Weco Type "T" Combination Stuffing Box



Weco Type "U" Stuffing Box

so designed to use a regular 600-pound Weco male union sun and nut, with the sub threaded on the inside to enable the operator to screw in a split bell nipple when running rods through the box. This box will accommodate the regular ⅝-inch by 2¼-inch common stuffing box ring, as will the Types B, T and C.

Weco (Dizzythread Union) Flow Tee—These tees are made of high grade steel to withstand high pressures. They are most convenient for killing a well, etc., without the inconvenience of removing a bull plug. The "dizzy-thread" union type connection has proved satisfactory for high pressure sealing in field use. The 6,000-pound flow tee has a replaceable bronze bushing. A bell nipple can be furnished to prevent distortion of threads and for convenience to operator for elevators.

Weco Drop Side Snatch Block—This drop side snatch block is heavily constructed to withstand heavy oil field

Weco Drop Side Snatch Block

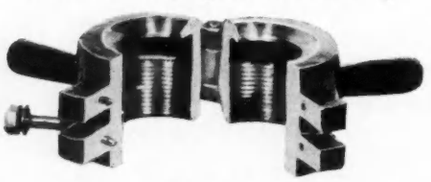
use. Especially designed for truck and drilling rig gin poles. Furnished with drop forged hook. The shells are made of ⅜-inch heavy steel plate, and the steel sheave is securely fastened to prevent dropping off when the side is raised. The bronze bushing is precisioned to enable the operator to make installation in the field. The pin has an alemite connection for greasing. Shakeproof lock washers are used throughout, and the sheave furnished for wire or manila rope.

Stuffing Box Oil Saver Assembly—After the Weco box has served its

Oil Saver Split Retainer Bushing **Weco Oil Saver Split Follower**

Oil Saver Packing Rings

purpose on a Christmas tree, then by the use of a special split retainer bronze bushing, bored for ⅝-inch or 9/16-inch wire line can be placed in the top of the tee or body, sealing off, as mentioned under flow tee assembly. Weco oil saver rubbers and a split bronze follower along with a handle type split cap are furnished for the purpose of swabbing.



Cap and Bell Nipple of Stuffing Box Oil Saver Assembly

Weco (Lewis) Derrick Belts—These belts are constructed of the best grade woven webbing, and all stitches are sewed with heavy waxed lined thread. Additional copper rivets are placed at all points of strain. These derrick belts provide two ways of escape, through

Weco Snap-on Derrick Belt

the snap at front, or at waist adjusting buckle at side. On both the snap-on and buckle types, all adjustable holes are fitted with brass eyelets, buckle with extra heavy double tongue.

Heavy wrought and forged steel fittings or heavy galvanized and cadmium plated fittings which resists deteriorat-

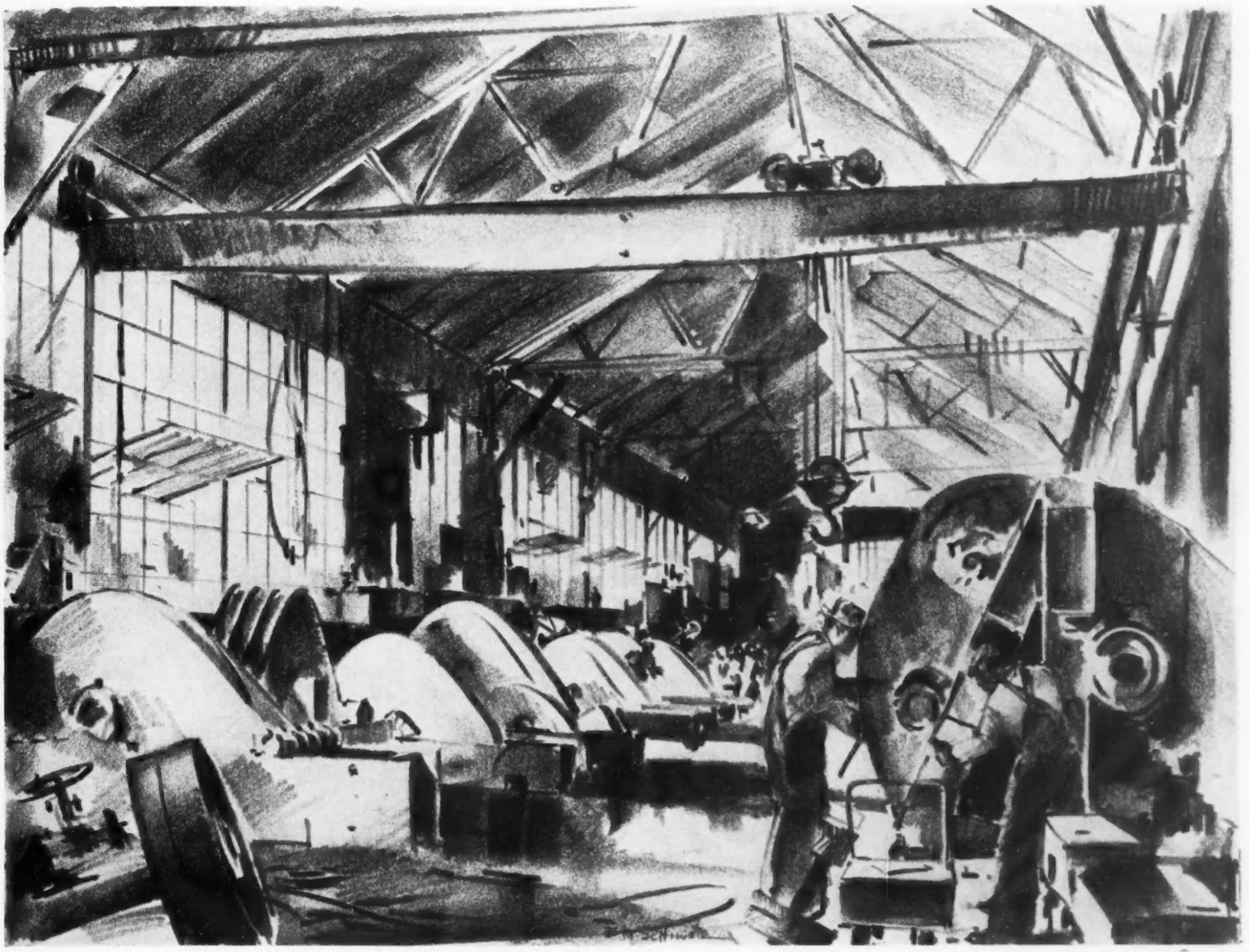
Weco Buckle Type Derrick Belt

ing effects of oil, salt water, paraffin and are rust proof also.

Stuffing Box Flow Tee Assembly—The Weco box is constructed so as to use the tee or body of the box just above the master valve on the Christmas tree. The wing nut and sub is used in connecting the flow line to the choke. A special steel adapter for pressure gauge is inserted in the top of the tee (where common split rings are used around the polished rod), scaling off at the bottom with the use of a regular 2¼x30 traveling valve cup. The pressure gauge adapter is sealed off by the common 1⅛x2¼ stuffing box rings held in place by the same bronze follower and top or crown that is used when the box is in service on a pumping well. The adapter is tapped at the top for half-inch pressure gauge connection.

Weco Stuffing Box Adapter

Weco Tong Line Block—This is a special built heavy pattern block with



ASSEMBLING HEAVY EQUIPMENT —*From a lithograph by E. M. Schiwetz*

THE OIL WORLD EXPOSITION points up Houston's importance to the petroleum industry, not only as a production and refining center, but also as a natural location for the manufacture of equipment and supplies. The First National in Houston serves the industry in all its departments and many of the manufacturers and distributors of the equipment you use.

We have a special department to handle oil loans, and the extension of credit to sound enterprises is one of the services most valued by our customers in the oil industry. The officers in charge of this department will be glad to discuss your credit requirements at any time.

FIRST NATIONAL BANK

IN HOUSTON

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

Weco Tong Line Block

iron sheave, drop side with latch lock, for the purpose of swinging tong lines in the derrick. Steel swivel eye with heavy steel plate shells, and bronze bushings are features of construction All parts of the block are interchangeable, and weight is only 12 pounds.

REPRESENTATIVES: C. K. Stillwagon, president and general manager; S. H. Smith, vice president; E. L. Oliver, assistant sales manager; I. W. Hebner, the Okadee Company; L. S. Hamer, Hamer Oil Tool Company; W. Clair Markle, Markle Tent & Awning Company; H. J. Hagn, secretary and treasurer.

Harnischfeger Corporation

MILWAUKEE, WISCONSIN

R. B. Everett and Company

HOUSTON, TEXAS

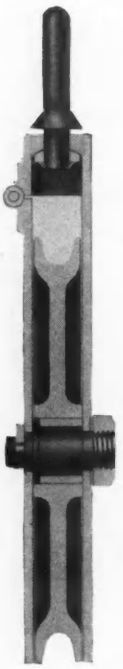
United Welding Supply Company

HOUSTON, TEXAS
Booth 1040

EXHIBIT: Model 255 all welded steel excavator. P. & H. Type "R" electric hoist. P. & H. Zip-Lift type electric hoist. Smootharc welding electrodes. 200-ampere special trailer mounted "P. & H.-Hansen" welder. 300-ampere portable type "P. & H.-Hansen" welder. Welder unit demonstration.

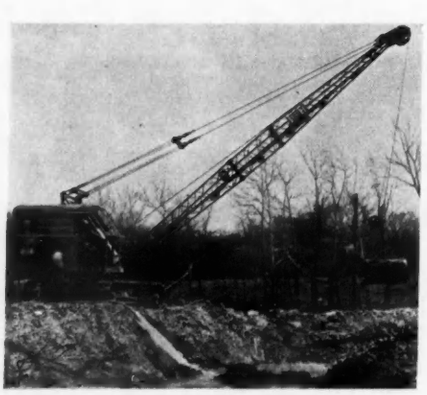
NEW PRODUCTS:

Model 255 All Welded Alloy Steel Excavator—This ¾-yard full convertible machine employs the use of rolled

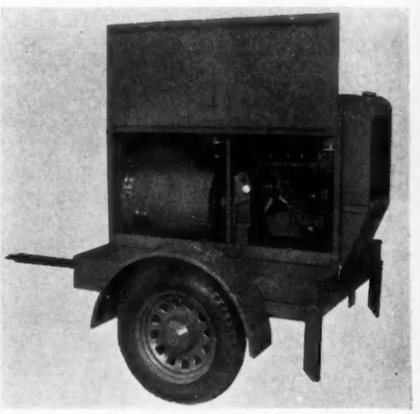


alloy steels and P. & H. all-welded design. Box sections rigidly welded to the circular lower car body combine with the crawler frames to make a single-piece all-welded unit, built of alloy steels, and machined as a unit for alignment of all working parts. According to the manufacturer, the P. & H. High Leverage Drive employed is reported to result in increased life of brake and clutch linings and is arranged so that the clutches and brakes exert a high leverage on the actual load when driving all operating parts of the machine. Hoist and digging drums are of a size to accommodate the amount of cable required for operating with a 40-foot boom without overlapping on the drum. This model is equipped with three-speed transmission, with a chain drive operating the self-cleaning tractor-type crawlers. Other features are a truss-type gantry; live roller circle; double equalized hook rollers; compensator springs for the crawler track; flexible drive shaft, and "live" type boom with chain crowd.

200-Ampere "Special" P. & H.-Hansen Engine Driven Arc Welder—This welder consists of a 200-ampere commercial rated 30-volt 6 KW generator with an intermittent welding range of 35 amperes to a maximum of 225 amperes. The generator is connected by a flexible coupling to a 24 horsepower, 4-cylinder water-cooled gasoline engine. The engine is equipped for hand-starting and with magneto ignition system. Its full tank capacity is 13 gallons, the crankcase holds 3½ quarts of oil, and the cooling system contains 3¾ gallons of water. The entire unit is mounted on a formed steel base and equipped with a full enclosed sheet metal canopy having removable sides for access to all parts. Although in its standard form it is a stationary type machine, it can



Model 255 All Welded Steel Excavator



200-Ampere "Special" P & H-Hansen Engine Driven Arc Welder

be supplied with the standard two-wheel pneumatic tire running gear as now used on a 150-ampere portable engine-driven welder. It is built to handle electrodes up to 7/32 inches in diameter under continuous manual operation.

REPRESENTATIVES: F. Salditt, vice president in charge of sales; G. K. Woodling, sales manager, excavator division; R. L. Scollard, sales manager, welder and electrode division; E. T. Slackford, advertising manager, and J. H. Enochs, district manager, Dallas office.

E. D. Bullard Company

SAN FRANCISCO, CALIFORNIA
Booth 748

EXHIBIT: Willson goggles and respirators. Wheat electric lamps. Non-sparking tools. First aid kits, unit refills and pocket packets. Venex snake bite first aid pocket packet. H. & T. safety derrick slide. Bullard gas masks. Safety clothing.

NEW PRODUCTS:

Kopper-Klad Wrenches — These wrenches are hand forged from scientifically heat-treated steels and then clad with copper. The tools retain full strength and durability provided by the hand forged steel core. Kopper-Klad tools are available in a full range of

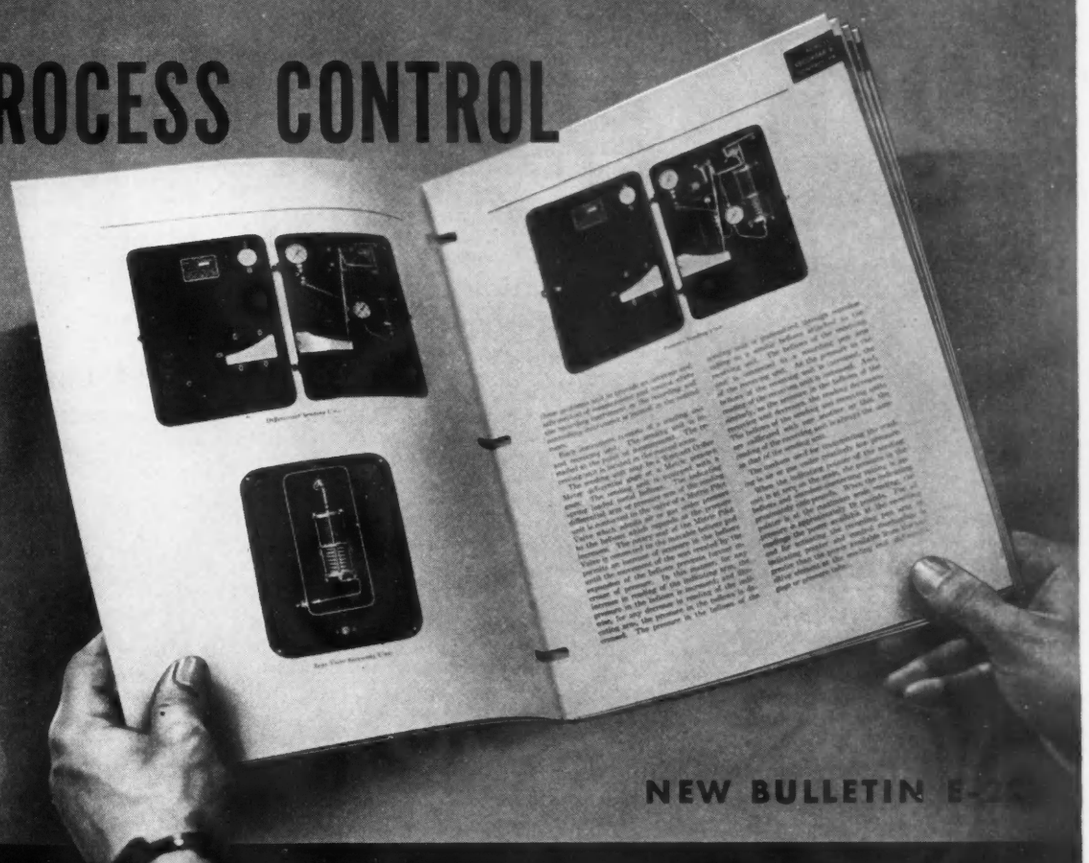
Kopper-Klad Wrench

sizes in extra heavy duty double end box wrenches, combination box and spud end wrenches and striking wrenches. Offered primarily in operations where sparking is a hazard, these same tools may be transferred to non-hazardous operations when the copper wears out.

Bullard Canister Mask—For use in organic vapors, this mask has received approval of the United States Bureau of Mines. It is built with a one-piece molded face-piece, anatomically mold-

new data on

PROCESS CONTROL



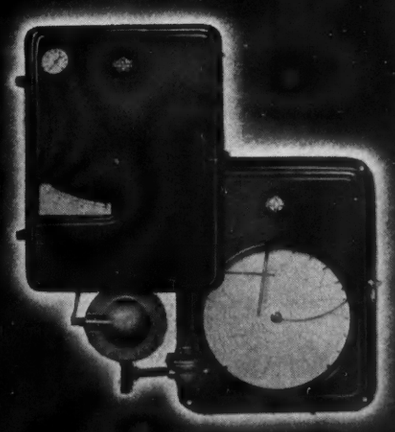
NEW BULLETIN E-22

REMOTE RECORDER AND CONTROLLER

. . . AIR-ACTUATED

A perfected new Metric-American instrument devised to meet the need of extreme simplicity, sensitivity and ruggedness in the most difficult remote-control installations . . . and to provide new economies and convenience. Complete with automatic reset control and all other desired features; zero to 100% throttling. ● Bulletin E-22 describes its applications for the control, long-distance transmission and charting of pressures, rate-volume of gas, air, steam or fluid measured by orifice method, including liquid-level control.

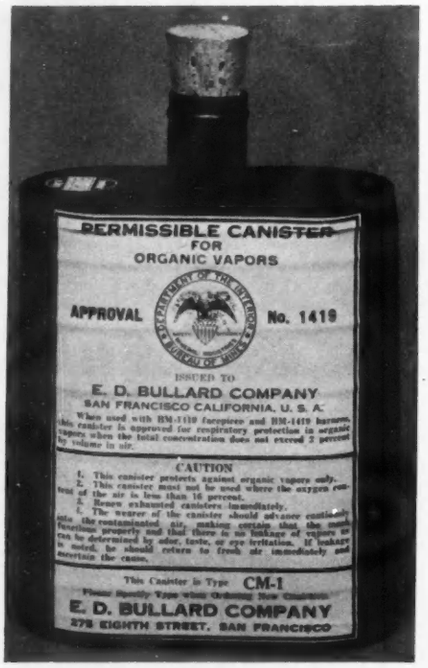
Copies obtainable upon request.



METRIC METAL WORKS • ERIE, PA.

AMERICAN
METER COMPANY
INCORPORATED (ESTABLISHED 1836)

1213



ed in the rounded shape of the face, and giving a tight, comfortable fit without excess tension on the head straps. A flutter valve provides more space for exhalation and is large enough to permit talking when wearing the mask. Triangular eyepieces that are placed close to the wearer's head permit broad vision, while minimizing the risk of fogging.

Bullard Cylindrical First Aid Kit—This first aid kit, containing dressings and treatments for 10 to 15 men, is 11½ inches in height and 4½ inches in diameter, including wall bracket. Contents are carried in unit packets, each enclosed in a clearly marked pocket in the canvas roll-up within the cylindrical container. A single metallic strip is attached to the back of the kit which is built with two slots that fit over two screws attached to the wall. If it is desired to remove the kit and carry it to the scene of the accident, this is done by lifting the cylindrical container from its support. If it is desired to affix the kit permanently to the wall, a second small unit is attached to the wall above the strip, making it impossible to remove the kit.

REPRESENTATIVES: Ted Felds, Houston district manager, and E. B. Bain.

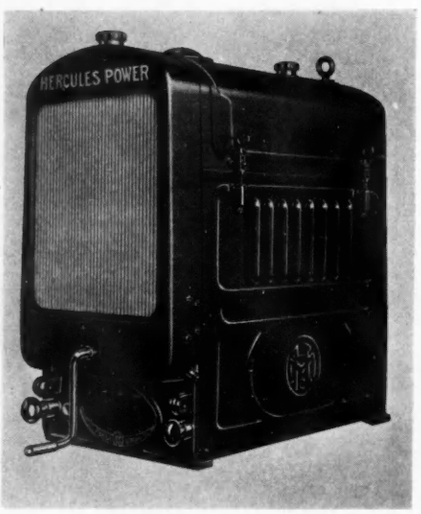
Bullard Cylindrical First Aid Kit

Hercules Motors Corporation

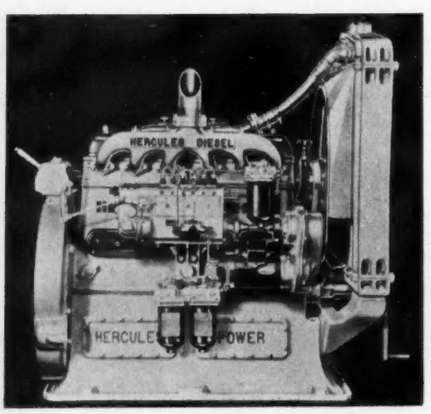
CANTON, OHIO

Booths 438, 440, 539, 541

EXHIBIT: NXB 3¼x4, 2-cylinder closed power unit. ZXB 2⅝x3, 4-cylinder closed power unit. IXB 3¼x4½, 4-cylinder closed power unit. OOC 4x4½, 4-cylinder closed power unit. JXC 3¾x4¼, 6-cylinder closed power unit. RXC 4⅝x5¼, 6-cylinder closed power unit. HXB 5x6, 6-cylinder closed power unit. HXE 5¾x6, 6-cylinder closed power unit. RXB 4½x5¼, 6-cylinder open power unit, with many special low-fire hazard features and especially arranged for oil field installations. DOOC 4x4½, 4-cylinder Diesel closed power unit. DJXC 3¾x4½, 6-cylinder Diesel open power unit. DRXB 4⅜x5¼, 6-cylinder Diesel open power unit. DHXB 5x6, 6-cylinder Diesel closed power unit. Special Hercules Diesel replacement package unit, arranged with all the necessary mounting parts and accessories for installation in the standard Ford truck chassis.



Hercules OOC Four Cylinder Closed Power Unit



Hercules DHXB Enclosed Unit

REPRESENTATIVES: John C. Keplinger, vice president; D. W. Latta, sales manager; R. J. Scott, Fred C. Goldsmith, Raymond T. Lewis, sales engineers.

The Guiberson Corporation

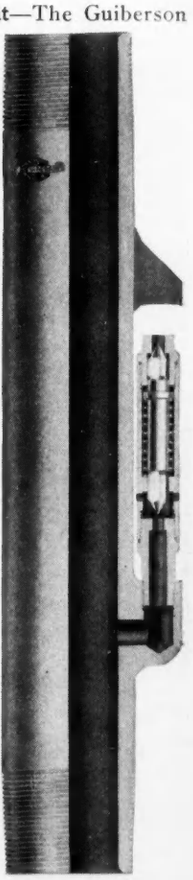
DALLAS, TEXAS

Booths 1111, 1113, 1115 Annex

EXHIBIT: High-pressure pipe line pumps. Gas lift equipment, including flow valves and intermitters. Type "E" drilling head, rotary blowout preventer and stripper. Tubing spiders. Casing and tubing swabs. Control head packers. Tubing catchers. Wire line oil savers. Sucker rod strippers. High pressure tubing oil savers. Early models of swabs and tubing catchers to show development. Spiral packers. Tubing packers.

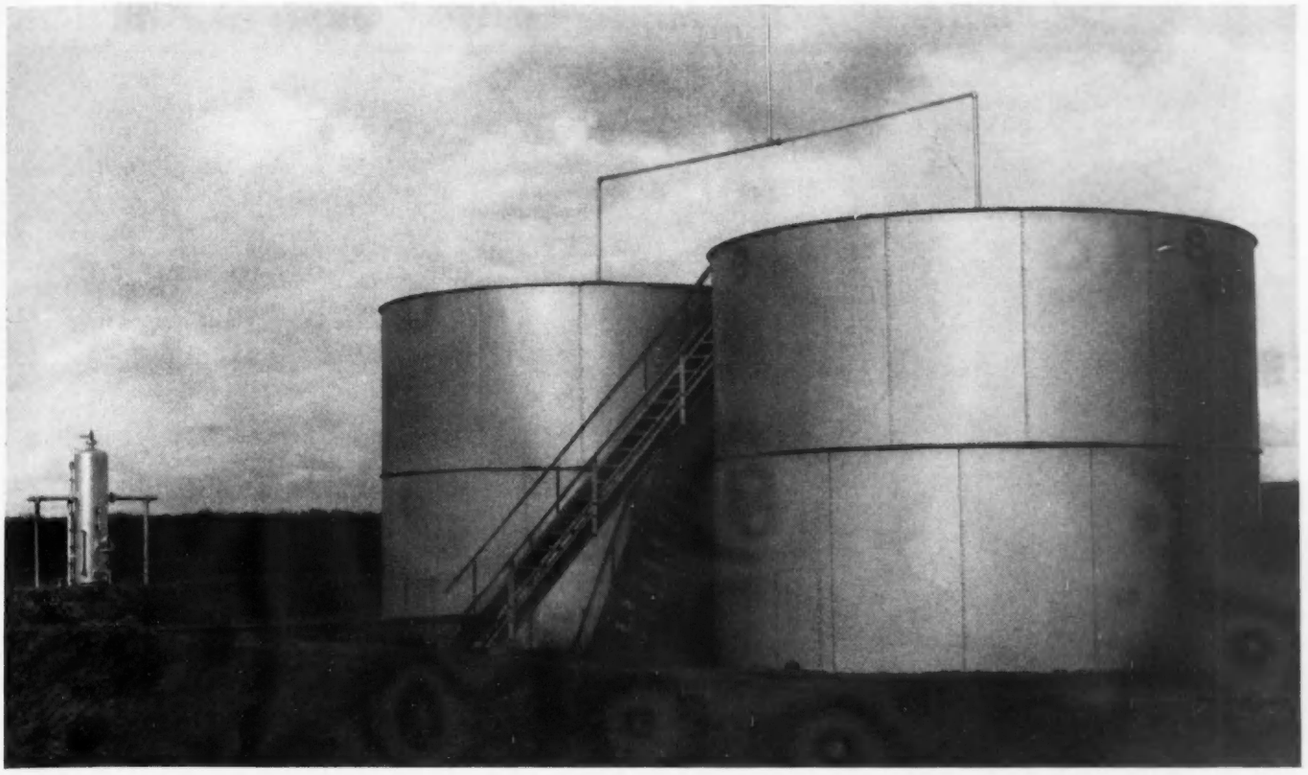
NEW PRODUCTS:

Gas Lift Equipment—The Guiberson Type "C" flow valve and Type "C" intermitter operate solely by differential pressure both in opening and closing, and the velocity of the fluid does not affect their operation. The valve mechanism is of very simple design and has only one moving part. In tests these valves use less gas per barrel of oil than any other make valve, it is claimed.



Type "C" Flow Valve

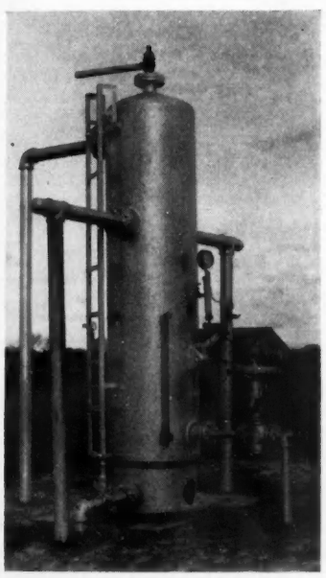
Type "E" Drilling Head, Rotating Blowout Preventer and Stripper—The improved Guiberson Type "E" drilling head with the new lower stuffing box arrangement is extensively used to provide a pack-off, capable of withstanding high and low pressures, between the Kelly, drill pipe, or tubing and the casing, in drilling wells under pressure, tubing wells under pressure, or any other application where a back-pressure on the drilling



Maloney 1,000-Bbl. Bolted Steel Tanks, and Maloney 500-Lb. High-Pressure Separator, Alice, Texas, District

MALONEY SEPARATORS *offer* EXTRA VALUE

More Efficient Separation--Perfected Mechanical Details



Maloney Separator, High-Pressure Type

When you buy a MALONEY Oil and Gas Separator, you are assured of EXTRA dollar value, resulting from (1) definite advances in design which insure more efficient separation; (2) an unusually high standard of excellence in all mechanical details.

Features of advanced design in the MALONEY Separator are Increased Capacity of the Initial Chamber, which affords additional expansion for partially releasing the heavy ends before the rising vapors enter the Knockout Element . . . Improved Knockout Element, which more efficiently separates the heavy ends from the gas . . . and the New Patented Mist Traps, which completely scrub the vapors, eliminating all remaining particles of mist.

Improved mechanical details include Valves with full-area passages; Boiler-type Manholes of forged steel, machined for gasket seat; Cover-plate held by two bolts, for easy removal. Special paints are applied after separators are thoroughly cleaned. A. P. I. and A. S. M. E. standards.

You will also be interested in the valuable features offered by MALONEY Bolted Steel Tanks, furnished painted or double-hot-dip galvanized, capacities 100 to 10,000 barrels. Full details in Composite Catalog.

Stocks at Principal Petroleum Points, including Salem, Illinois.

MALONEY TANK MFG. COMPANY

38 N. PEORIA TULSA, OKLA.

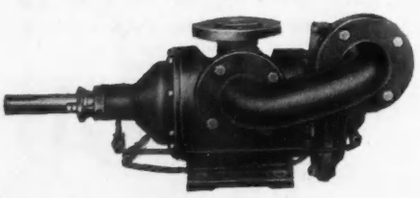
MALONEY

fluid is required. The new lower stuffing box arrangement prevents any foreign

Type "E" Drilling Head

matter from entering the housing in which the roller bearings are mounted.

Guiberson Pipe Line Rotary High Pressure Pump—The new Guiberson pipe line rotary high pressure pump is now in use with over 35 major and independent pipe line companies in practically all oil fields in the United States and in many foreign fields. It



Guiberson Pipe Line Rotary High Pressure Pump

has simple construction, high efficiency, capacity to pump against high pressures, light weight, and portability.

REPRESENTATIVES: S. A. Guiberson, Jr., chairman of the board; S. A. Guiberson, III, president; H. M. Haseltine, assistant to president; Gordon G. Guiberson, executive vice president and general manager; Al Pranger, chief engineer; H. U. Garrett, sales manager; R. G. Taylor, Jr., service director; Irving Buck, pump sales; E. D. Wilde, gas lift sales; J. C. Owen, C. L. Forcum, sales representatives.

Sullivan Machinery Company

MICHIGAN CITY, INDIANA

Booth 1023-A

EXHIBIT: Pneumatic pumphead. No. 41 motorized core drill. Alleviator. String-A-Lite vapor proof derrick lighting sets. Sullivan 36-37-51 drills.

NEW PRODUCTS:

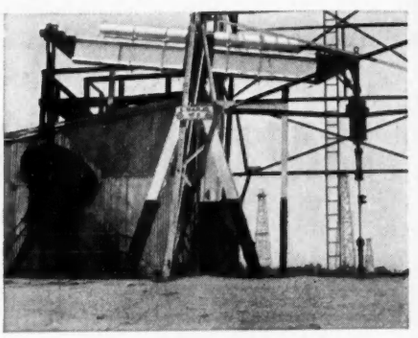
Pneumatic Pumphead—Sullivan will exhibit a complete working model of a Sullivan pumphead including derrick hanging equipment, pumphead, volume tanks, heater and compressor. Sketches and large scale photos will be used to tell of the advantages; will show how the giant shock absorbing action materially reduces sucker rod breakage; how this pumphead is adaptable to installation on low, swampy ground, flood plains and ocean shore; how the variable speed of stroke, length of stroke and independent control of up and down stroke speed allows most efficient pumping during the entire life of the well; how they may be operated by compressed air or gas; how the unsanding valve feature permits unsanding in many cases without pulling the well; how single or multiple installation can be used; how wells can be weighed with a simple pressure gauge and without shutting down.

No. 41 Motorized Core Drill—A Sullivan No. 41 Core Drill on a Marmon Herrington truck will be on display. This complete heavy duty drilling rig was introduced during the past year as the last word in a complete portable drill for electrical subsurface surveys, heavy structure testing work and shallow slim hole production drilling.

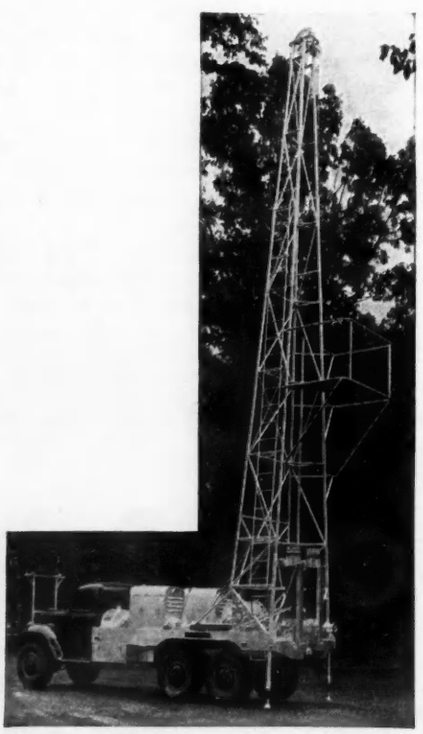
Although the unit to be shown is truck mounted, it may be had on other mountings such as trailer, semi-trailer, crawler tractor, crawler wagon or skids.

The principal feature of the No. 41 is the automatic chuck and the design of the rotary table which permits the use of either rods or splined kelly (griefstem) and the ability to chuck the kelly as well as the rods.

Sullivan Alleviator—The Sullivan alleviator will be displayed in picture style. This alleviator is a pneumatic cushion to attach to standard beam pumping units between the beam and the polished rod. Supplied with air or gas at the proper pressure for each particular well it reduces peak polished rod load, reduces polished rod horsepower and reduces wear and tear on the entire pumping unit.



Sullivan Alleviator



Sullivan No. 41 Core Drill

String-A-Lite Vapor-Proof Derrick Lighting Sets—There will be a display in miniature of the new String-A-Lite Vapor-Proof derrick lighting sets—a one-piece flexible derrick lighting system of rubber covered cord and fittings moulded into an easily erected, 100 percent salvageable assembly and a display of Sullivan drilling accessories such as water swivels, core barrels, drag bits and core bits.

Sullivan 36-37-51 Drills—Field views and detail views will be used to show the advantages and applications of the company's No. 36 lightweight motorized shot hole drill, the No. 37 structure testing drill and the No. 51 portable deep structure testing and shallow production drill.

REPRESENTATIVES: J. W. Haddock, vice president; H. T. Walsh, vice president; J. A. Noyes, manager, oil field sales; J. B. Martin, manager, core drill division; P. D. Cornelius, oil field sales department; C. L. Van Da Griff, salesman; J. E. M. Schultz, salesman; Walter A. Krevis, salesman; G. E. Smedberg, Dallas sales; H. C. Johansen, core drill engineer; H. H. Vanderzee, core drill designer, and W. H. Wineman, pumphead engineer.

Chattanooga Daily Times

LUCEY BOILER EXTRA

and MFG. CORP. Announces the BIGGEST BOILER on the MARKET

The LUCEY 150 H.P. 350 LB. WORKING PRESSURE BOILER

with 60"x72"x96" Rivetless Fire Box of 178 Sq. Ft. Heating Surface

THROUGH USE OF HIGH TENSILE STRENGTH STEEL WEIGHT IS ONLY 36,000 LBS.

LUCEY BOILER FEATURES:

1. SEAMLESS FIRE BOX, LUCEY PATENT. No Rivets to Overheat or Burn. No Leaky Seams.
2. 20" Between Crown Sheet and Outside Wrapper. Plenty of STEAM SPACE with two gauges of water. EASILY COMPENSATING FOR THE ABSENCE OF THE DOME.
3. ARCHED CROWN SHEET, LARGE CORNER RADII. Good Stay-bolt Threads. Stronger Construction, Easy Cleaning. Better Combustion
4. SHORT TUBES (13 ft.) in VERTICAL ROWS Effective Heating Surface.
5. 4" WATER SPACE all around the Fire Box Good WATER CIRCULATION.
6. RATING — A. P. I. — 150 H. P.
7. With or without Dome.

DISTRIBUTORS:

Lucey Products Corporation, Tulsa, Okla.
Bridgeport Machine Co., Wichita, Kans.
Houston Oil Field Material Co., Inc., Houston, Tex
Murray-Brooks Hardware Co., Ltd., Lake Charles, La
Louisiana Supply Co., Sulphur, La.
EXPORT: Lucey Export Corporation, 3505 Woolworth
New York, N.Y., Broad Street House, E.C. 2, London, En

LUCEY

LUCEY BOILER and MANUFACTURING CORPORATION

539 PETROLEUM SECURITIES BLDG. LOS ANGELES, CALIFORNIA

Chattanooga, Tenn.

811 STERLING BLDG. HOUSTON, TEXAS

Mid-Continent Supply Company
FORT WORTH, TEXAS

Cummins Engine Company
COLUMBUS, INDIANA

American Car & Foundry Company
NEW YORK, NEW YORK

Allis-Chalmers Mfg. Company
MILWAUKEE, WISCONSIN

Bethlehem Steel Company
BETHLEHEM, PENNSYLVANIA

Emsco Derrick & Equipment Company
LOS ANGELES, CALIFORNIA

General Electric Company
SCHENECTADY, NEW YORK

Gardner-Denver Company
QUINCY, ILLINOIS

Helm Manufacturing Company
FORT WORTH, TEXAS

Hewitt Rubber Corporation
BUFFALO, NEW YORK

International Derrick & Equipment Company
BEAUMONT, TEXAS

The Locomotive Finished Material Company
ATCHISON, KANSAS

Ludlow Valve Mfg. Company
TROY, NEW YORK

Mid-Continent Pump Supply Company
TULSA, OKLAHOMA

Manheim Manufacturing Company
MANHEIM, PENNSYLVANIA

Naylor Pipe Company
CHICAGO, ILLINOIS

Pacific Pump Works
HUNTINGTON PARK, CALIF.

Perfex Radiator Company
MILWAUKEE, WISCONSIN

Twin Disc Clutch Company
RACINE, WISCONSIN
Outside Spaces 1001, 1002

EXHIBIT: Mid-Continent-Cummins Model M-21 V-belt mechanical rotary rig drive powered by two 225-horsepower Cummins engines (one using Diesel fuel and the other natural gas fuel). Mid-Continent-Cummins Diesel rotary auxiliary (utility) unit, completely equipped. Cummins "cold starting" full Diesel 125-horsepower, 6-cylinder power unit, Model HP-600, left hand rotation with special 4-speed transmission for separate engine drive to rotary table. Cummins "cold starting" full Diesel 175-horsepower, 6-cylinder, supercharged engine, Model HPS-601, driving mud pump, with clutch, radiator and fan equipment. Cummins "cold starting" full Diesel 150-horsepower, 6-cylinder marine engine, Model HMR-602, with marine reverse gear. Cummins "cold starting" full Diesel 35-horsepower, 4-cylinder engine, Model AP-400-C, driving 4½x6 Gardner-Denver duplex power pump, with clutch, radiator and fan equipment. Cummins "cold starting" full Diesel 55-horsepower, 6-cylinder engine, Model AP-600-C, driving Emsco geared pumping unit. Cummins "cold starting" full Diesel 67-horsepower, 4-cylinder marine engine, Model AMR-400, with marine reverse gear. Cummins "cold starting" full Diesel 100-horsepower, 6-cylinder marine engine, Model AMR-600, with marine reverse gear. Cummins "cold starting" full Diesel 450-horsepower, 12-cylinder power unit, Model VLP-1202. Ideco "little giant" drawworks, 23-inch rotary table, and two-speed reversing countershaft. Gardner-Denver 4½x6 power driven duplex pump. Emsco 7¼ x 12 power driven slush pump with cast steel fluid end, 2000-pound working pressure, 3000-pound test pressure. The fabricated steel power end is roller bearing equipped throughout. Emsco 7¾ x 16 power driven slush pump with forged steel fluid end, 3000-pound working pressure, 6000-pound test pressure. The fabricated steel power end is rated 330-horsepower at 55 revolutions per minute. Emsco 15½ x 7¾ x 20 steam slush pump with forged steel fluid end, 3000-pound working pressure, 6000-pound test pressure, with steam saving cam actuated valves. Emsco D20-TPM 4-horsepower, twin crank, portable, double reduction, roller bearing equipped, continuous tooth herringbone geared pumping unit. Emsco D40-TPM 8-horsepower, twin crank, portable, double reduction, roller bearing equipped, continuous tooth herringbone geared pumping unit. Emsco D77-TPM 15.3-horsepower, twin crank, portable, double reduction, continuous tooth herringbone geared pumping unit. Emsco D165-TPM 33.3-horsepower, twin crank, portable, double reduction, continuous tooth herringbone geared pumping unit. Emsco S255-TPM 51.5-horsepower, twin crank, portable, single reduction, continuous tooth herringbone geared pumping unit.

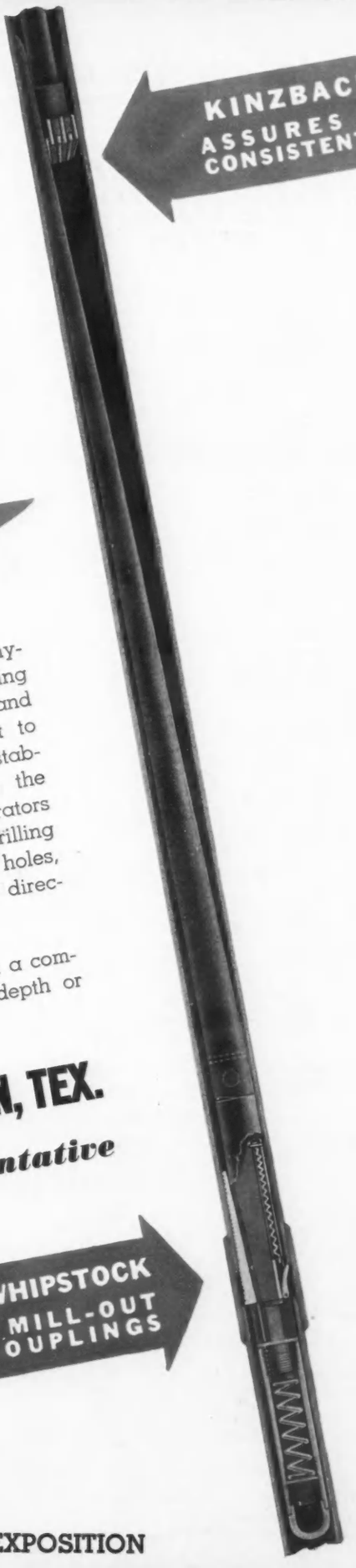
Pacific oil well pumps with working and cutaway models showing streamline cages and how gas is handled. Bethlehem fully normalized A. P. I. sucker rods including a display of Bethlehem's exclusive methods of fully protecting rods for handling, loading, transporting, unloading, and stacking. Bethlehem wire rope with Unizact core showing Bethanizing process. Ludlow gate valves—No. 4 and No. 5½ cutaway models—No. 5½ and No. 8 complete valves. Mid-Continent automatic relief valves for oil pipe line service. Mid-Continent low air pressure surge chamber for alleviating surge in oil pipe lines. Famous Brand cutaway specimens of rotary hose. A. C. F. full area lubricated plug valves. Wisconsin single cylinder "air-cooled gas" gasoline engine driving 4-horsepower pumping unit. Veelos detachable V-belting. Drives on rig utility unit and on individual well pumping unit. Allis-Chalmers V-belt sheaves on rotating elements for drawworks drive. Naylor spiralweld line pipe and surface casing. Locomotive Finished Material Company combination union and check valve. Universal piston rings, and Universal cylinders. Mid-Continent well gas detector for detecting the presence of gas in drilling muds and to indicate the penetration of gas or other sands which will discharge gases into drilling mud. Mid-Continent fluoroscope for examining mud specimens and to determine the location of oil-bearing sands.

REPRESENTATIVES: From Mid-Continent Supply Company—K. W. Davis, president; D. H. Thornbury, vice president; J. A. Daugherty, vice president; J. C. Halbert, secretary-treasurer; F. J. Spurlock, sales manager; F. John, purchasing agent; R. O. Moore, general merchandise manager; C. D. Helm, sales engineer; A. S. George, manager machinery department; P. H. Edwards, sales engineer; T. M. Cone, designing engineer; H. H. Brown, branch manager, Dallas; A. E. LeClaire, store manager, Houma, Louisiana; H. E. Hamilton, district store manager, Houston; W. I. West, district manager, Houston; M. McMurry, store manager, Houston; J. E. Everroad, sales engineer; L. L. Winters; A. L. Smith, sales engineer; R. E. Fuller; O. A. Schilling; S. W. Woolsey; Herbert Muery; T. W. Ratcliffe, Jr.; R. C. Tucker, district manager, Odessa, Texas; T. P. Tarwater, store manager, Odessa, Texas; J. W. Hoover, sales engineer; R. L. McAnally, store manager, Kermit, Texas; F. R. Files, store manager, Kilgore, Texas; E. H. Holcomb, sales engineer; G. H. Canterbury, store manager, Lake Charles, Louisiana; A. T. Skaer, store manager, Lisbon, Louisiana; C. M. Fleeman, store manager, Magnolia, Arkansas; G. A. Wead, store manager, Refugio, Texas; H. P. Moore, store manager, Rodessa, Louisiana; G. W.

The Unquestionable Leader in

WHIPSTOCKS

PROOF: The Opinion of Thousands of Operating Men Based on 12 Years Worldwide Performance



KINZBACH MILL
ASSURES A CLEAN
CONSISTENT WINDOW

"Kinzbach" and "Whipstock," in the oil country, are just about synonymous. The advantages of the original Kinzbach Whipstock and Milling Tool over other sidetracking methods gained them immediate and widespread popularity 12 years ago. Continuous improvement to meet the growing number of re-drilling problems has definitely established the Kinzbach Whipstock-Milling Tool combination as the Industry's most dependable sidetracking equipment. Now, operators everywhere think of Kinzbach when they are faced with re-drilling jobs . . . whether sidetracking junk, straightening crooked holes, plugging back, re-drilling workover wells, or sidetracking for directional drilling by orientation.

The Kinzbach Whipstock and Milling Tool line offers you a combination to match your re-drilling problem, regardless of depth or condition. Fully descriptive Catalog is yours for the asking.

KINZBACH TOOL CO., INC. HOUSTON, TEX.

LANE WELLS CO. ***California Representative***

KINZBACH WHIPSTOCK
ASSURES A MILL-OUT
BETWEEN COUPLINGS

See Our Exhibit OIL-WORLD EXPOSITION

PATENTED

KINZBACH

Walters, store manager, Seagraves, Texas; S. W. Backus, district manager, Shreveport, Louisiana; T. A. Brown, sales engineer; P. J. Dasey, sales engineer; C. R. Brooks, store manager, Turnertown, Texas; and W. P. Mason, store manager, Wichita Falls, Texas.

From Cummins Engine Company—C. L. Cummins, president; J. I. Miller, general manager; P. E. Letsinger, vice president in charge of sales; Dave Buttles, sales manager; S. W. Curtiss, advertising manager; D. B. Worth, manager industrial division; and J. B. Chambers, manager Mid-Continent region.

From American Car and Foundry Company—W. R. Kottsieper, assistant sales manager, valve department, and W. C. Mooney.

From Allis-Chalmers Manufacturing Company—Ray Enters, Texrope division; W. A. Meyer, Texrope division; O. A. Haas, district manager, Tulsa; G. H. de la Vergne; and D. M. McCargar.

From Bethlehem Steel Company—J. C. Miller, manager of sales; P. E. McKinney, metallurgical engineer; Charles M. Ballard; W. R. Shimer; John J. Lovell; J. E. Moore; C. B. Hinton; and M. P. Leonard.

From Emsco Derrick and Equipment Company—P. D. Browne, plant manager, Houston; L. W. Stahl, chief engineer, Houston; George W. Walton, vice president and manager Mid-Continent machinery division.

From General Electric Company—A. H. Keen; G. R. Prout; and George Curry.

From Gardner-Denver Pump Company—R. L. McClain and W. E. Shaughnessy.

From Helm Manufacturing Company—A. C. Helm.

From Hewitt Rubber Corporation—L. D. Bigelow, vice president.

From International Derrick and Equipment Company—R. R. Bloss, president and general manager, and E. H. Eddleman, general sales manager.

From Locomotive Finished Material Company—H. E. Muchnic, president, and A. H. Moorhead, sales manager.

From Ludlow Valve Manufacturing Company—A. W. Thompson, vice president, and R. B. Trow, district manager, Houston.

From Mid-Continent Pump Supply Company—R. A. Dunbar, president, and R. Van Matre.

From Manheim Manufacturing Company—Stuart Courley, sales manager, and Vincent K. Alexander, branch manager, Chicago.

From Naylor Pipe Company—E. W. Naylor, vice president, and N. E. Turney, sales manager.

From Perfex Radiator Company—G. G. Holt, vice president in charge of sales.

From Twin Disc Clutch Company—G. M. Guilbert, vice president, and J. B. Jenkins, district manager, Tulsa.

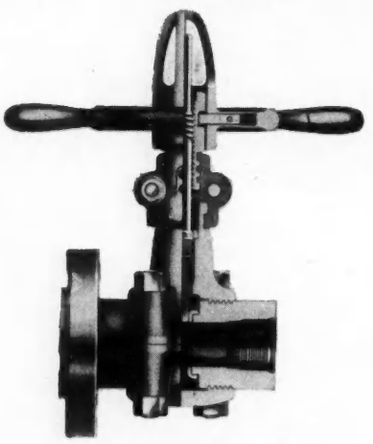
Cameron Iron Works, Inc.

HOUSTON, TEXAS

Booths 604, 606, 705, 707

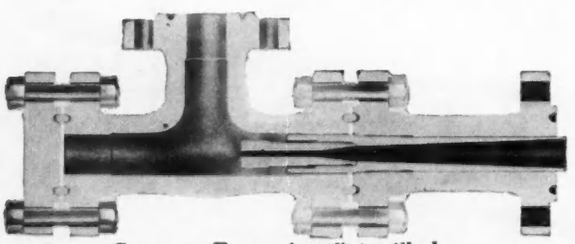
EXHIBIT: Full line of blowout preventer equipment, both pressure and manually operated. Control heads. Casing heads. Tubing heads. Mud valve. Needle valve. Expansion tube choke. Casing-To-Tubing packer. Bottom-hole choke. Safety Christmas trees.

Cameron Flex-Seal Mud Valve—The Cameron Flex-Seal Mud Valve is equipped with a renewable resilient flow-way insert to minimize cutting and erosion of abrasive-laden fluids, and to insure leak-proof closure under pressure. Insert may be replaced in the field, simply by releasing the four body bolts and dropping the lower half of the body. Hubs of valve are connected to the body by a series of parallel shoulders and grooves which interlock with corresponding shoulders and grooves in the valve body. Hubs may be fitted with threaded, flanged, welded-on, or any special connection on the outer end. The valve opens and closes with remarkable ease under full rated test pressure of 6000 pounds.



Flex-Seal Mud Valve

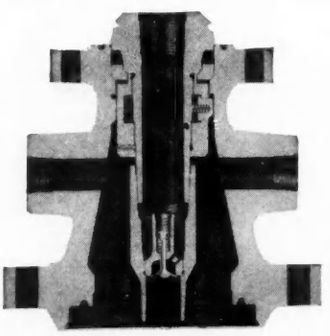
Cameron Expansion Tube Choke—The Cameron Expansion Tube Choke is designed to reduce well head pressures by stages in flowing high pressure wells, and to regulate the expansion of gas sufficiently to prevent freezing of flow-lines between Christmas tree and separator. The assembly consists of a flanged housing, long expansion tube, and a positive bean. Both the bean and expansion tube are removable through the "run" of a flanged tee. The construction assists in retarding the drop in temperature by increasing the area of metal through which the gas may absorb heat during expansion. Turbulence is eliminated at the outer end and life of the positive bean is greatly increased. Wear on the tapered tube is exceedingly slow.



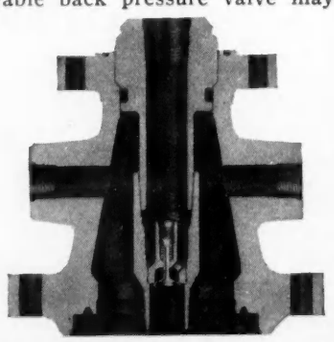
Cameron Expansion Tube Choke

Cameron Needle Valve—The new Cameron Needle Valve, designed for use on the outer end of tubing flow-wings on high pressure Christmas trees and on discharge side of special flow-choke manifolds, provides a safe, positive means of shutting-in high well pressures outside of the regular gate or plug valves. With the needle valve closed, pressure in the gate valves is equalized, and they may be closed without excessive strain of the valve stems. The valve consists of a Tee-shaped housing with bonnet, a heavy alloy steel screw with needle formed integrally on the outer end, and a heavy stem which actuates the needle. The seat is a soft steel insert, tapered on each side to be reversible. The unit is available in 6,000 pounds and 10,000 pounds test.

Cameron Type "D" and Type "G" Tubing Heads—Two new Cameron Tubing Heads, Type "D" (Breechlock) and Type "G" (Boll Weevil), designed primarily for use in connection with Cameron Casing Heads and Spools, may be adapted for use above any make of casing head constructed with API flanges. Type "G" is fitted with a solid steel "boll-weevil" tubing hanger having a lip seal ring to provide annular space seal the instant tubing is suspended in the head. As a safety precaution, an auxiliary collar with removable back pressure valve may be used below the hanger if desired. Type "D" is similar to the Type "G" except that the horizontal shoulder, which



Cameron Type "D" (Breech-Lock) Tubing Head



Cameron Type "G" (Boll-Weevil) Tubing Head

SERVICE AND QUALITY

YEARS of experience in making steel and wrought iron have taught us how to avoid the errors and inaccuracies of ordinary pipe-making. This experience is combined with rigid standards of inspection throughout the manufacturing process. The result is Chester High Tensile Casing —the casing you can trust to fill your pipe requirements, with maximum economy of operation.

SOUTH CHESTER TUBE CO.

Chester, Pa.

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F. H. Gibson,
1331 Gulf Building,
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J. P. Cooney,
715-716 A. G. Bartlett Bldg.,
Los Angeles, Calif.

District Offices:

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1708 Hudson Terminal Bldg.,
30 Church St., New York, N.Y.

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Portland, Ore.

United Pipe & Supply Corp.,
Charleston, W. Va., and Branches

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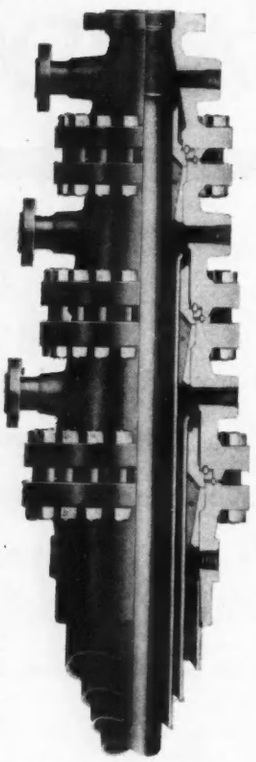
Mannington, W. Va., and Branches

CHESTER

STEEL CASING AND LINE PIPE

forms a seat for the tubing hanger, has three vertical slots machined through it. The upper face of the hanger is machined on a 45-degree taper, while the lower face is machined at a 90-degree right angle.

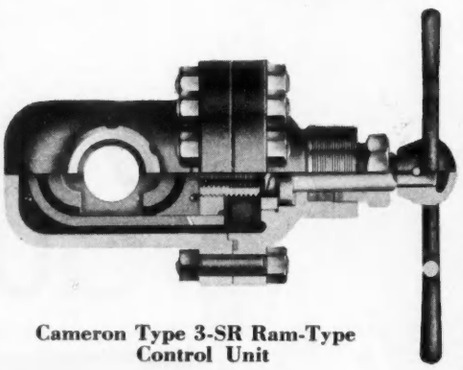
Cameron Type "C" Casing Head—The Cameron Type "C" Casing Head features the "Flex - Steel" Multi - Ring Gasket Assembly, which eliminates resilient packing, yet provides a pressure-tight seal between the flanges, a pressure-tight seal of the annular space, a rigid hold-down of the casing hanger and string, a sealing means controlled from outside the casing head by flange studs independent of the weight of the casing string. This casing head was designed to eliminate all casing - size threads above the surface pipe thread. Five types of casing hangers are available for use with Cameron Type "C" Casing Heads. Made in 6000 pounds test, 3000 pounds working pressure models.



Cameron All-Steel Casing Head with the "Flex-Steel Multi-Ring Gasket Assembly

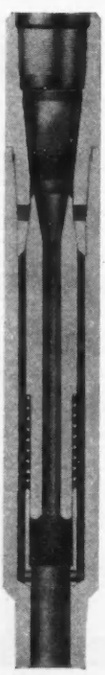
Cameron Type TCHR Ram-Type Tubing Control Head—The Cameron Type TCHR Ram-Type Tubing Control Head or Blowout Preventer is designed especially for use in high-pressure Christmas tree assemblies when it is desired to suspend and seal the tubing on rams, and when casing outlets are provided. Test pressures are 6000 pounds, or 10,000 pounds, as desired. No openings are provided above or below the rams. The rams are manually operated, and fitted with Cameron Self-Feeding Ram Packing Elements. Although this head is designed for use on Christmas trees, it is adaptable for other special work.

Cameron Type 4-SBR Control Unit—The Cameron Type 4-SBR Control Unit was designed primarily for use as a stuffing box on top of Christmas tree assemblies when wells are to be washed high before liner packers are collapsed and set. This control unit is made in 6000 pounds test. The body is studded and grooved to receive adapter flanges or spools having 4-inch—Series 900 A. P. I. face on one side. It may readily be adapted for use above any flanged or threaded opening on top of and Christmas tree. This unit provides a high degree of safety and flexibility.



Cameron Type 3-SR Ram-Type Control Unit

Cameron Type 3-SR Ram-Type Control Unit—The Cameron Type 3-SR Control Unit was designed primarily to provide a quick, positive seal-off on 1¼-inch and 1½-inch tubing, or on any size of solid wire line, such as measuring line, special fishing line, etc. This Control Unit is recommended for fishing jobs inside of drill pipe, tubing, etc. The two flat rams in this unit are fitted with a special type of Cameron self-feeding ram packing elements. The rams may be furnished solid to permit full closure, if desired.



Cameron Non-Removable Bottom-Hole Choke

Cameron Non-Removable Bottom-Hole Choke—A recent Cameron development is the non-removable bottom-hole choke. This choke is constructed to allow the well to be washed through it. The positive bean is held against its seat by a light coil spring. When washing in is started, the bean is unseated, uncovering an annular space around the bean and inside the body. The fluid may pass down this annular space and out four holes in the lower section of the guide bushing, and also through the choke bean. The bean is returned to its seat after the washing operation by the action of the spring and the well pressure. This choke was designed to be made up on the tubing, one or two joints from the bottom of the string.

Cameron Type "G" Packer — The Cameron Type "G" Packer provides a simple means of making a pressure-tight packoff between the tubing and oil string to relieve the oil string of any pressure at the surface. This packer has proved successful on wells having bottom-hole pressures up to 6500 pounds, and also for making successive production tests of different sands through perforations. The operation is relatively simple. Seal between tubing and oil string is effected by lowering tubing string until valve packer contacts the valve seat. The tubing is then lowered further until about half the weight of the string rests on the packer. This weight expands the Neoprene packers inside the oil string. Due to the absence of complicated slip, "J" tool, or other mechanisms, the Type "G" Packer may be readily pulled from the hole on the tubing string at any time.

REPRESENTATIVES: Frank Quaidy; J. M. (Red) Teague; Roy N. Bean; W. B. Stevens; Sam Pattillo; F. H. Isaacks; W. Holmes Smith; O. V. Parker; Thad L. Putman; Gene Teer, and Paul T. Putnam.

Templeton, Kenly & Company

CHICAGO, ILLINOIS

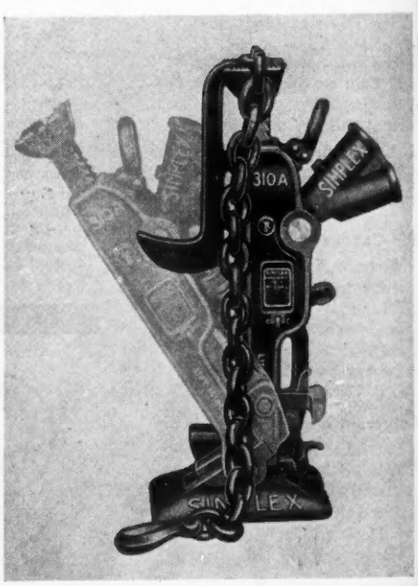
Booth 312

EXHIBIT: Jacks for oil field and industrial uses.

NEW PRODUCTS:

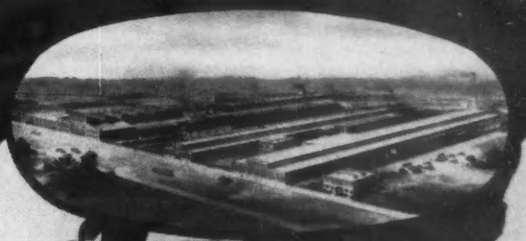
No. 310-A Simplex Emergency Jack—No. 310-A emergency jack which, in addition to maintaining the features of the No. 310, lifts 37 percent easier, has a 1-inch greater lift, has a greater base area, eliminates stooping over as the base locking hook can now be foot operated, has a more convenient carrying handle and longer and wider rack bar toe lift, a greater overload capacity and greater strength built into every detail.

Heavy Duty Worm Gear Rod Line Jack—This is the new No. 440 Simplex heavy duty worm gear rod line jack. The new simplified Simplex No. 440 has a fully enclosed geared mechanism and a speed crank for rod line slack



No. 310-A Simplex Emergency Jack

38 JARECKI SUPPLY STORES *are* AT YOUR SERVICE



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TURNERTOWN
HOUSTON

If you are not already familiar with JARECKI supply service, you will be interested to know that . . .

JARECKI operates 38 supply stores which are conveniently located in the Mid-Continent, Gulf Coast, Illinois Basin, Northern and Eastern fields. At these 38 stores, JARECKI distributes equipment and supplies for drilling, production and pipe line use. All equipment is manufactured by leading companies, and adequate field stocks are maintained at each store.

When you need equipment, and need it in a hurry — get in touch with your nearest JARECKI Store.

See our Exhibit
Booth 746
HOUSTON OIL SHOW

Jarecki
MANUFACTURING COMPANY
"Since 1852"

General Offices: St. Louis, Mo. Home Office and Factory: Erie, Pa., U.S.A.
District Offices: Pittsburgh, Pa.; Tulsa and Bartlesville, Okla.; Dallas and Houston, Texas; Mt. Pleasant, Mich.; Lawrenceville, Ill.
Branch Stores at All Important Places in the Oil Country.

take-up. The manufacturer claims that the jack will pick up wells easily and quickly regardless of depth. Belt stretchers can be furnished with the No. 440 as well as with the No. 434 rod line jack which has a capacity of 3 tons.

Adjustable Boiler Supports—Simplex adjustable boiler supports for quickly and easily setting up oil field boilers without timbering and shimming will also be exhibited for the first time.

Raising and Lowering Jack—A No. 85-A 5-ton single acting automatic raising and lowering jack which contains many important improvements over its predecessor, the No. 85, will also be on display.

REPRESENTATIVES: Charles Neher, J. B. Templeton, vice president.

W-K-M Company
HOUSTON, TEXAS

Johns Manville
NEW YORK, N. Y.

Booths 605, 607, 609, 611 and 504, 506, 508, 510; 1048 Outside

EXHIBIT: Gate valves. Tubing slips and spiders. Hauser round kelly drive. Sucker rod hangers. Mud screen. Rotary slips. King Pin brake lining. Brake band exchange service. Paraffin cutter. Merco centrifugal desander. Everlasting valves. Houston Engineers' products. L-K cementing plug. Johns Manville coating and wrapping machine. Pipe line equipment.

NEW PRODUCTS:

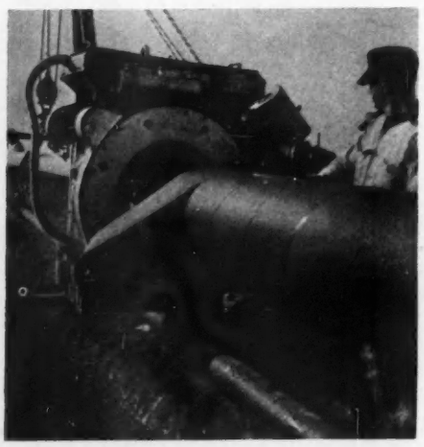
Johns Manville Pipe Coating and Wrapping Machine—This is a recently developed, power driven machine, traveling along a made-up pipe line and applies the coating and wrapping material as it moves along. It applies any kind of coating, and wraps the pipe with felt or asbestos wrapper, providing any desired lap, either single or double. Wrapping may also be one wrap of felt, covered by another wrap of other material, all at the same trip.

REPRESENTATIVES: L. O. Koen, president; T. M. Smith, H. B. Cookston, D. M. Griffith, F. M. Black, A. B. Calkins, W. D. Moore, salesmen; G. M. Stewart, export manager of W-K-M Company.

E. L. Rolfs, president; J. D. Cummings, vice president; A. S. Crutcher, secretary-treasurer of Crutcher Rolfs Cummings.

A. L. Peltzer, engineer of Merco Centrifugal Company.

E. N. Corning, sales manager of Everlasting Valve Company.



Johns Manville Pipe Coating and Wrapping Machine

Patterson-Ballagh Corporation
LOS ANGELES, CALIFORNIA

Booths 132, 134

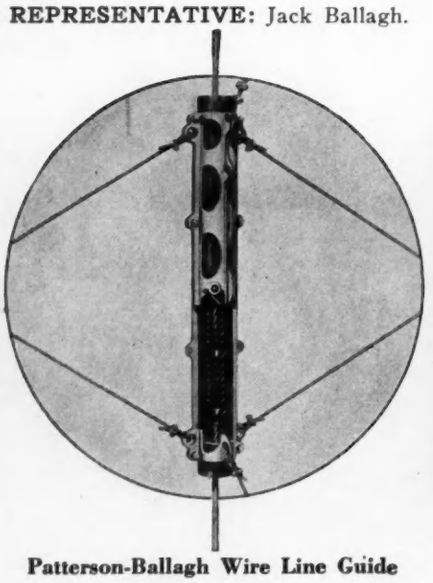
EXHIBIT: Complete line of oil field rubber specialties. Drill pipe wiper. Drill pipe and casing protectors. Tubing protectors. Sucker rod protectors. Wire line guides. Rubber stabilizers. Safety mud guns and swivel bail bumpers.

NEW PRODUCTS:

Drill Pipe Wiper—This device, which resembles a huge rubber pancake, is placed under the master bushing. Snugly fitting around the pipe, it wipes off the mud and muck as the pipe and tools are removed from the hole.

Patterson-Ballagh Protector

REPRESENTATIVE: Jack Ballagh.



Patterson-Ballagh Wire Line Guide

Le Roi Company
MILWAUKEE, WISCONSIN

Southern Engine and Pump Company
HOUSTON, TEXAS

Pomona Pump Company
POMONA, CALIFORNIA

Viking Pump Company
CEDAR FALLS, IOWA

Booth 1046

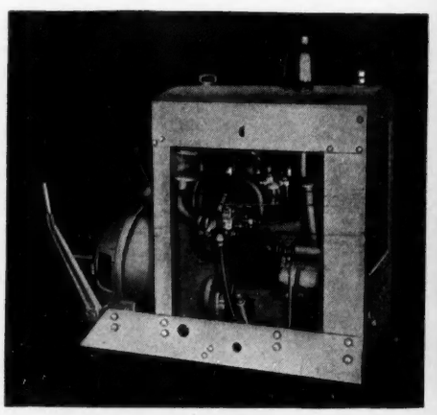
EXHIBIT: 12-cylinder, 196-418 horsepower, butane-natural gas drilling engine. 6-cylinder, 98-209 horsepower, gasoline-natural gas drilling engine. 4-cylinder, 40-60 horsepower, gasoline-natural gas pumping engine. 4-cylinder, 20-32 horsepower, gasoline-natural gas pumping engine. 4-cylinder, 7-11 horsepower, gasoline-natural gas pumping engine. 2-cylinder, 3-5 horsepower, gasoline-natural gas pumping engine. 5 KW, 110 volt, DC, engine driven light plant. 2 KW, 110 volt, DC, engine driven light plant. Pomona geared head pump. Viking pumps.

NEW PRODUCTS:

Heavy-Duty Pumping Engines—Le Roi heavy-duty pumping engines, especially designed for shallow field work, are available in three sizes for pump loads ranging from 2½ to 15 horsepower. Load ratings are based on unusually low piston speeds of 700 to 800 feet per minute. Of particular interest is the power take-off furnished on these engines. It consists of a heavy-duty Twin Disc oil field type clutch, a generously sized alloy steel drive shaft and an extra large bell housing enclosing a flywheel nearly twice as heavy as those used on other engines of comparable size, the manufacturer claims.

Five KW Light Plant—A weatherproof, 5 KW, 1150 RPM, 110 volt, DC light plant. The switchboard and instruments are built into a panel conveniently located at the rear of the machine.

REPRESENTATIVES: C. W. Pendock, president; W. R. Karll, general sales manager; L. G. Valdes, Tulsa manager; R. A. Pride, and B. F. Koepke, of Le Roi Company. D. N. Wommack, W. G. Price, H. H. McGilvray, Richard Kropp, Linn K. Park, and Walter A. Price, of Southern Engine & Pump Company, Houston.



7-11 Horsepower Le Roi Pumping Engine

Lane-Wells Company

LOS ANGELES, CALIFORNIA
Booths 364, 366, 465

EXHIBIT: Gun perforating. Electrolog. Directional drilling. Oil well survey services. Packers. Liner hangers. Photo record magnetic single shot instruments. Go-devil inclinometer. Bridging plugs. Dual seal cementers.

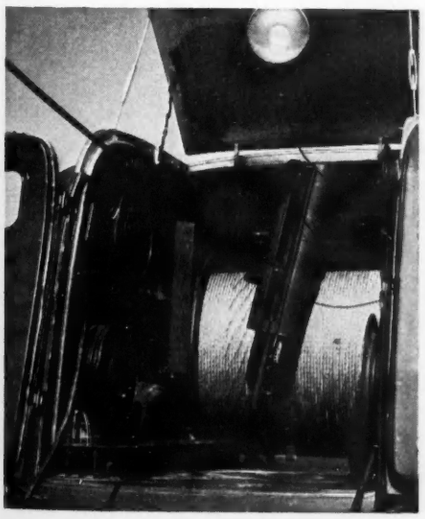
NEW PRODUCTS:

Lane-Wells Electrolog—Lane-Wells Electrolog service now being introduced into Mid-Continent and Gulf Coast areas is an advanced electrical open hole logging service providing "Multicurve" records of formation. Maximum detail on three or more curves with faster operations is one of the chief features.

Developed in California and perfected during the past two years, the service will be introduced with new, improved electrical recording apparatus, accurate measuring equipment and improved electrodes. These records reflect the extreme sensitivity of the recording apparatus which makes interpretation and correlation of formation easier, and can be readily compared with similar records.

A motion picture will be shown to illustrate the operating technique.

Multiple-Shot Survey Instrument—To meet demands for survey equipment to cover a wider range of oil field application Lane-Wells introduces the Model "C" Multiple-Shot survey instrument. Measurement units cover any inclination likely to be encountered by use of two plumbobs. Compass and inclination readings are recorded on a film which has large enough capacity to survey wells of any known depth with a wide margin of safety. Pictures are precisely read for rapid, accurate computation. Can be run on sand line or drill pipe in open hole for magnetic survey or oriented on drill pipe or tubing in cased hole. Survey speeds are from 1000 to 4000 feet per hour. Instrument is reloaded in the field with no need for a dark room. Clocks are compensated to hold within one second per hour over a temperature range of 50° F. to 250° F. O. D. is 3¾ inches.



Lane-Wells Electrolog Truck

REPRESENTATIVES: Rodney S. Durkee, executive vice president; M. E. Montrose, division manager; M. T. Higgs, division sales manager; J. E. Huff, Jr., division sales engineer; G. E. Matter, sales engineer; C. R. Searcy, sales engineer; J. C. Traylor, sales engineer; M. E. Woodward, sales engineer; G. E. Thompson, Houston district superintendent; R. K. Eason, sales engineer; C. F. Ludwig, Corpus Christi district superintendent; K. K. Gage, New Iberia district superintendent; H. W. Hillebrandt, Shreveport district superintendent; N. L. Baker, sales engineer; W. E. Lynd, sales engineer; T. A. Pope, sales engineer; W. E. Gorham, sales engineer; A. L. Seymour, sales engineer; D. M. Anderson, engineer; N. L. Dorn, chief engineer; R. B. McCullar, Mid-Continent division superintendent; and Charles T. Casebeer, Mid-Continent sales engineer.

Lane-Wells Survey Instruments

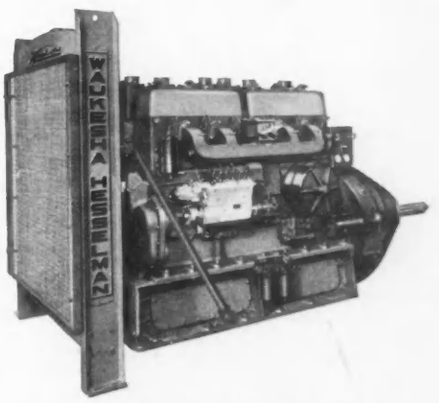
Waukesha Motor Company

WAUKESHA, WISCONSIN
Booths 1043, 1044 Outside

EXHIBIT: Two Model 6-NKH Waukesha Spark Diesel (Hesselman Patent) 200-225 horsepower drilling engine with dynamatic electric power takeoff and clutch. Two Model WAK 175-200 horsepower, 6-cylinder gas-gasoline drilling units with gasoline engine starting system.

NEW PRODUCTS:

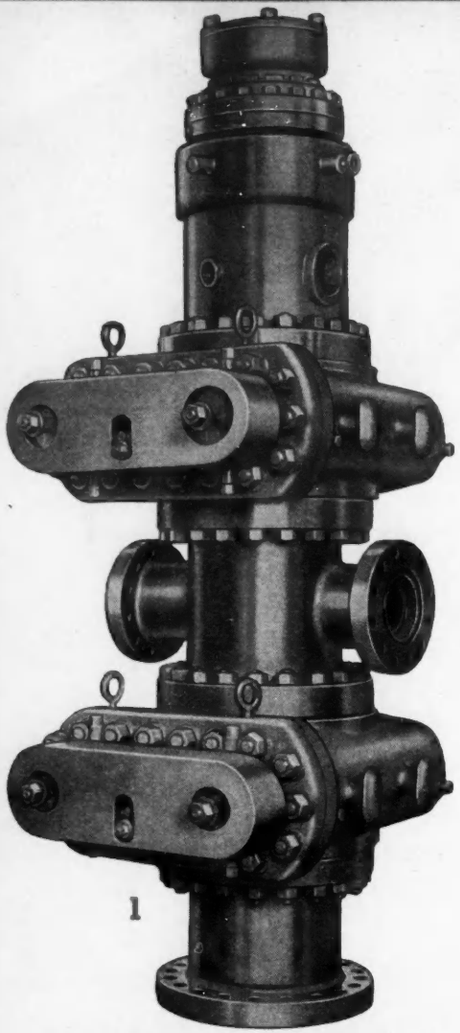
Dynamatic Electric Drive—The company's newest development in oil field drilling equipment is the dynamatic electric drive in combination with the Waukesha Spark-Diesel engines to be used on the portable demonstrating drilling rig. Employing the principle of the variable speed induction motor—it is not a magnetic clutch—the dynamatic unit has a short-circuited element built into the flywheel with a wound rotor driven element subject to variable excitation. There is no mechanical contact between the moving elements but by varying the field excitation, the slip can be regulated to provide speed reduction without a reduction in torque. This is an exclusive drive with Waukesha drilling engines and permits the operator to compound his engines at will, in a greater or less amount by remote control with the use of electrical connections only. He can apply the maximum load from either or both engines independently or simultaneously to which ever drive requires the power.



Waukesha Diesel With Dynamatic Electric Clutch

Power Units—Two new power units for operation with natural gas or gasoline and developing up to 200 horsepower with 6-cylinder engines having a bore and stroke of 6¼ inches x 6½ inches and piston displacement of 1199 cubic inches will be shown for the first time at the Exposition. Both engines are overhead valve type fitted with wet sleeve, hard iron cylinder liners, seven bearings, 4-inch crankshaft, full pressure lubrication system and are fitted with the new four-cylinder starting unit developed by the company. The small four cylinder engine employed is water cooled, and employs the same fuel as the large engine upon which

PIONEERS YESTERDAY - LEADERS TODAY



1 Here is "pressure control equipment" at its best, with a Shaffer Combination Rotating Blow-Out Preventer and Stripper which provides positive protection at all times while drilling, running pipe in or out of the well, or when all the tools are out of the hole.

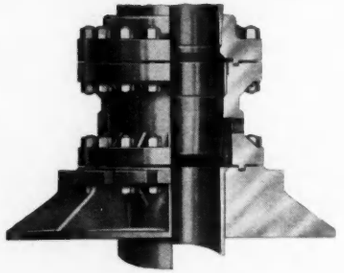
While drilling, the Stripper Rubber maintains a seal around the Kelly, and rotates with it. If gas pressure develops, the pressure automatically increases the sealing effect of the Stripper Rubber around the Kelly. Higher pressure serves only to develop a more positive seal.

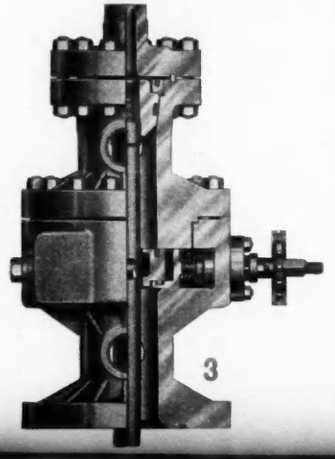
When running-in or coming-out of the hole both the drill pipe and the tool joints are packed-off by the Stripper Rubber which expands and contracts to conform to the diame-

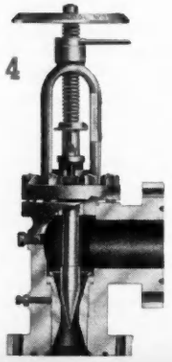
It is but a short time, measured by years, since the first Shaffer Control Equipment was used—but we have come a long way measured by the improvements and methods developed. Today SHAFFER HIGH PRESSURE CONTROL EQUIPMENT provides a successful means for preventing blow-outs, for handling all high pressure formations—and for other phases of pressure-controlled drilling.

The complete Shaffer Section in the 1939 Composite Catalog will give you full details, which are also contained in the Shaffer 1939 General Catalog sent free upon request to any oil man.

2 With Shaffer Full Opening Spool Type Landing Heads, drilling operations are readily carried on through the heads, and it is not necessary thereafter to change the size or length of the drilling connections, including gates. Upper view, before casing is landed; lower view, after landing.







3 The Shaffer Universal Tubing Control Head provides the means for preventing blow-outs while drilling in and tubing the well. Oil-resistant Neoprene is used for packing material, and the simple, compact unit permits safe manipulation of the tubing under pressure.

4 Shaffer Adjustable Flow Beans control the flow of fluid through a line, and also permit regulation of the pressure and rate of flow with extreme accuracy. Made in a variety of types and sizes to meet all requirements.

5 The new Shaffer Type 38 Cellar Control Gates embody all the successful features of previous types of gates, plus important improvements which add to the strength, rigidity, ease of operation and positive sealing. This view emphasizes the large operating screws and ball races which take the end thrust and facilitate opening and closing of the gate when internal pressure is extremely high.

6 The new Self Centering Rams are used effectively to center small diameter drill pipe in the bore of large diameter Shaffer Cellar Control Gates, and can be installed in all previous types of Shaffer Cellar Control Gates by replacing present rams with the complete unit illustrated.

SHAFFER TOOL WORKS

BREA, CALIFORNIA

California Service Shops:
Santa Fe Springs, Taft and Ventura

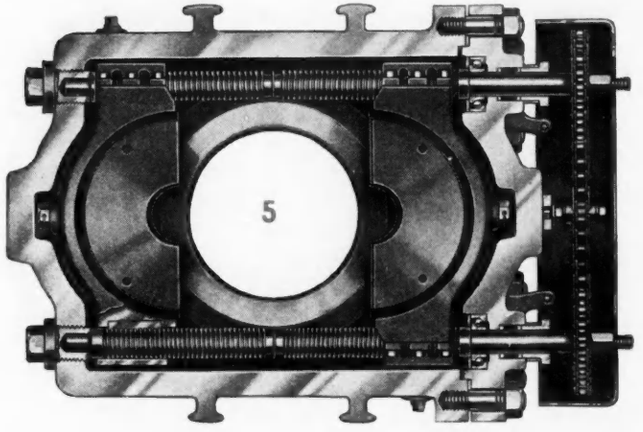
HOUSTON, TEXAS
6006 Navigation Blvd.

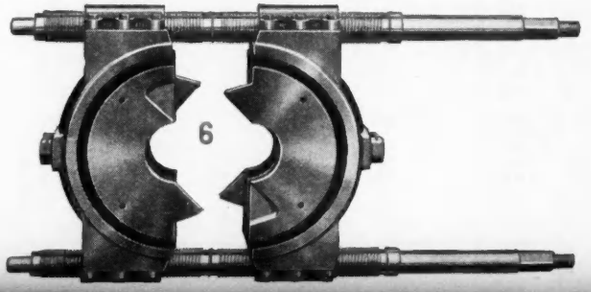
OKLAHOMA CITY, OKLA.
1534 S.E. 29th Street

EXPORT INQUIRIES should be directed to Shaffer Tool Works, Brea, California, U.S.A.

FOR SHAFFER FISHING TOOLS IN OKLAHOMA
ACME OIL TOOL COMPANY
1001 S. E. 29th Street, Oklahoma City, Okla.

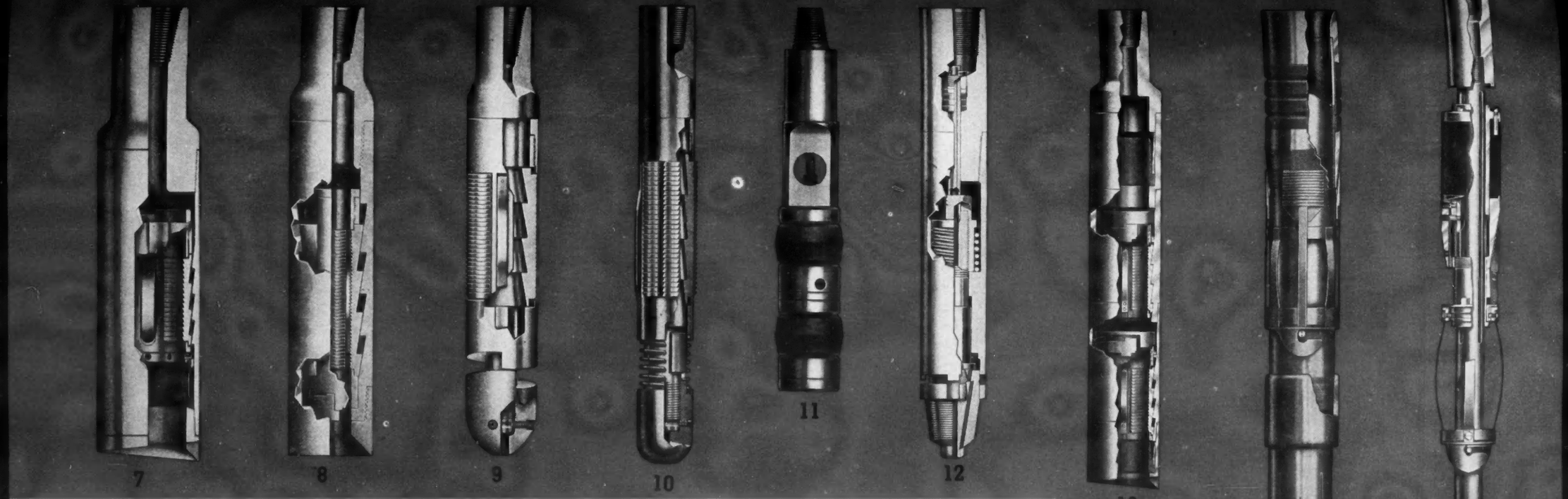
IN TEXAS
WILSON SUPPLY COMPANY
1412 Maury Street, Houston, Texas





tive seal.

When running-in or coming-out of the hole both the drill pipe and the tool joints are packed-off by the Stripper Rubber which expands and contracts to conform to the diame-



7 Shaffer Rotary Releasing Sockets are considered indispensable by a great many modern operators for recovering drill pipe, casing, liners, or any other type of fish for which a socket can be used. The Shaffer T. & T. Type Rotary Releasing Socket is recommended for use with left hand tools.

8 Shaffer Sockets also are used successfully for recovering miscellaneous loose fish as well as heavy stuck fish. The Shaffer-Hamon Rotary Releasing Socket (8) is recommended for use with right hand tools.

9 Shaffer Rotary Releasing Spears have been widely used for many years for removing casing or pipe; for setting liners; for holding jobs, and for jarring operations. The Shaffer-Hamon Rotary Releasing Spear is recommended for use with right hand tools.

10 All Shaffer Spears take hold with a positive grip, but release readily when desired. The Shaffer T. & T. Rotary Releasing Spear is recommended for use with left hand tools.

11 Shaffer Improved Casing Swabs are designed so that the fluid is introduced through carefully graduated openings and the rubbers are thus expanded to establish a sealing action and contact in direct proportion to the load carried. Made also in another type for swabbing tubing.

12 The Shaffer Expanding Pin Tap is used for left-handing or backing-off when drill pipe is stuck with the tool joint box or coupling up and it is impossible to go over the fish with a socket or other tool. The Shaffer Expanding Pin Tap provides a connection fully as strong as any other portion of the fishing string, and provides the additional assurance that if it is not possible to recover the fish, the Pin Tap may be unscrewed and removed from the well.

13 The Shaffer Double Bowl Rotary Releasing Socket has two sets of slips, the upper slips being made to catch the drill pipe, and the lower slips to catch the tool joint. It is always ready to run without changing slips, whether the twist-off has occurred in the pipe or tool joint.

14 Shaffer Liner Hangers are made in both Plain and Packing Types and provide the means for hanging the liner safely and easily, and for its later removal, if desired. Liners of any length can be set and re-set wherever required.

15 In addition to providing a perfect initial seal, the Shaffer Improved Packer eliminates the difficulty encountered when pulling other types of packers where the upward pull exerts an expanding and wedging action on the packing element. Any upward movement of the Shaffer Packer pulls the rubber packing assembly inward, thus elongating it and assuring easy, complete release from the casing. This feature makes it ideal for locating water leaks where repeated settings (without removing packer from the well) are necessary.

SHAFFER

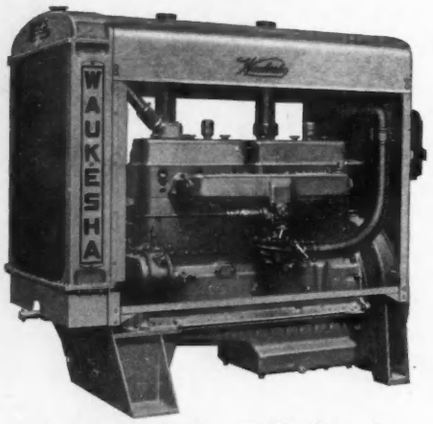
Specialists in

HIGH PRESSURE DRILLING AND CONTROL EQUIPMENT
FISHING TOOLS THAT EXCEL

Described in detail on Pages 3008 to 3044 of the 1939 COMPOSITE CATALOG

SEE OUR EXHIBIT AT THE HOUSTON OIL-WORLD EXPOSITION

BOOTHS 317-319-321



Waukesha Model WAK Natural Gas or Gasoline Power Unit

it is mounted. Manual clutch is used to engage the screw shaft starter pinion which automatically disengages when the main engine fires.

REPRESENTATIVES: J. E. DeLong, president; J. B. Fisher, vice president; J. G. Swain, sales manager; P. C. Ritchie, advertising manager; E. R. Rutenber, oil field power engineer; Arch Campbell, manager, Mid-Continent district; George A. Duncan, assistant manager, Mid-Continent district; and W. E. Jacobson, chief of field service, Mid-Continent district.

International Harvester Company

CHICAGO, ILLINOIS
Booths 1034, 1036

EXHIBIT: A varied assortment of motor trucks, tractors, and power units especially equipped for oil field work. Special displays will include cut-out motor truck and Diesel engines, Tocco-hardened crankshaft display, and magneto display. International industrial wheel-tractor will be represented by the Model I-14. Typical oil field equipment will be mounted on the heavy motor trucks.

NEW PRODUCTS:

Full Diesel Six-Cylinder TracTracTor—The Model TD-18 full Diesel six-cylinder "TracTracTor," with a maximum belt horsepower of about 80 and a drawbar horsepower of 70, this new model becomes the largest in the International line. The new model is provided with a method of starting on gasoline, and after a minute or two is shifted to full Diesel operation. A conventional automotive type electric starter is regular equipment. The tractor operates at six forward speeds of from 1½ to 5¾ miles per hour, and has two reverse speeds.

Power Unit—The new Model U-10 has a maximum horsepower of 45 and is provided with base and other equipment especially suited for oil field work.

REPRESENTATIVES: L. M. McWhirter, manager, Houston branch; W. F. McAfee, sales manager; P. V. Moulder, manager, motor truck sales; Neal Higgins, in charge of industrial equipment sales; R. E. Butler, manager, Southwest district; J. J. Foley, branch manager, Dallas; J. M. Ryan, branch manager, San Antonio; B. N. Roberts, branch manager, Sweetwater; R. W. Elliot, branch manager, Tulsa; and R. E. Jaquier, branch manager, Oklahoma City.

Frick-Reid Supply Corporation

TULSA, OKLAHOMA

Jones and Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

Joseph Reid Gas Engine Company

OIL CITY, PENNSYLVANIA

Beaumont Iron Works

BEAUMONT, TEXAS

Axelson Manufacturing Company

LOS ANGELES, CALIF.
Booths 350, 352, 354, 356, 451, 453, 455, 457

EXHIBIT: Products of Gilmore Wire Rope Division of Jones and Laughlin Steel Corporation, Joseph Reid Gas Engine Company, Beaumont Iron Works and Axelson Manufacturing Company.

NEW PRODUCTS:

Reid "Terrier" Engine—Included in the Frick-Reid Supply Corporation exhibit, is the Reid "Terrier," built by Joseph Reid Gas Engine Company, of Oil City, Pennsylvania. The Terrier, an engine of the single cylinder, two cycle, horizontal type, has several improvements over the original design first offered to the trade about one year ago. The Terrier is built in two sizes: 7½ x 9 and 8¼ x 9, as a gas or oil engine, and convertible from one fuel to the other. Horsepower ratings: 7½ x 9 gas—14 horsepower to 30 horsepower; Diesel—11 horsepower to 24 horsepower; 8¼ x 9 gas—16 horsepower to 37 horsepower; medium compression oil—13 horsepower to 30 horsepower.

Featured in the design of the engine are Timken main bearings, removable cylinder head, metallic piston rod packing, patented crosshead and piston rod clamp connection, controls all conveniently mounted in a unitized assembly, with the control box mounted at the cylinder end of the frame. It is entirely enclosed, dust-proof, and oil tight, and all working parts are readily accessible for inspection or adjustments.

REPRESENTATIVES: J. L. Shakely, president; Robert McCoy, vice president; H. H. Wilson, sales manager; V. V. McGrew, Gulf Coast sales manager; C. B. Moore, Houston city sales manager.

Mine Safety Appliances Company

PITTSBURGH, PENNSYLVANIA
Booths 313, 315

EXHIBIT: M. S. A. carbon monoxide detector. Permissible flashlight. M. S. A. knee pads. H-H inhalator. Pyrotannic detector (M. S. A.). Safety sign. Safety belt. Dustfoe respirator. Comfo respirator (chemical cartridge). Dust and mist respirator. Abrasive mask with light weight hood. Abrasive mask with heavy duty hood. Air line respirator. Clean air blower. Skullguards. Combustible gas indicator. Thiokol sampling line. M. S. A. explosimeter. M. S. A. carbon monoxide alarm. M. S. A. carbon monoxide indicator. M. S. A. combustible gas alarm. M. S. A. hydrogen sulphide detector. Burrell all-service mask. Sectional all-service canister. Combination hose mask. Burrell industrial mask. M. S. A. half-mask. M. S. A. ammonia mask. M. S. A. tank gauger's mask. All-weather first aid kits. Salt tablet dispenser and tablets. One-at-a-Time dispenser. M. S. A. sanitary portable drinking fountain. Adjustable shoulder carrying strap.

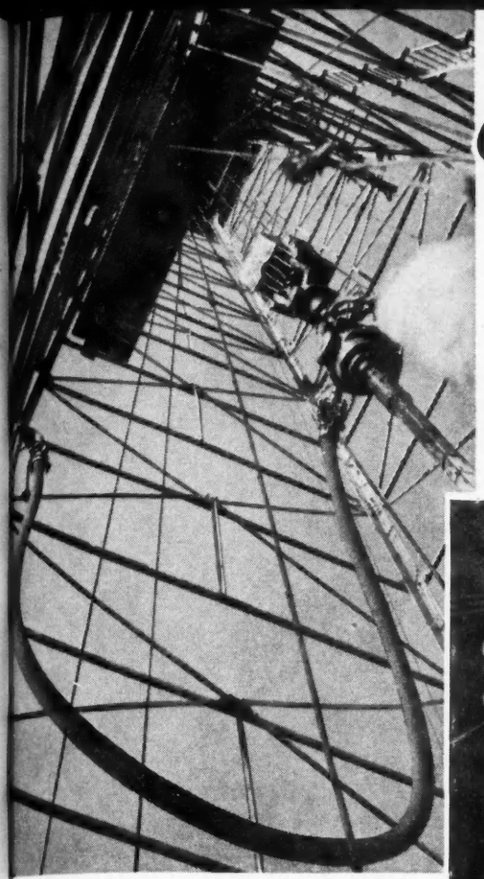
NEW PRODUCTS:

Dustfoe Respirator—This is Bureau of Mines-approved against Type A and lead dusts. It makes use of the positive-acting U. S. Army gas mask type exhalation valve which allows for drainage of condensation and permits the use of a deeper facepiece providing even greater comfort. A redesigned face cushion fits firmly to the aluminum facepiece at all times. The new Dustfoe is unique, packing more wanted features in smaller dimension than any other dust respirator; lightweight, having a total weight of 3¾ ounces; compact, allowing full vision; low breathing resistance; parts are easily replaceable and sterilized; fool-proof exhalation valve; protective filter cover.

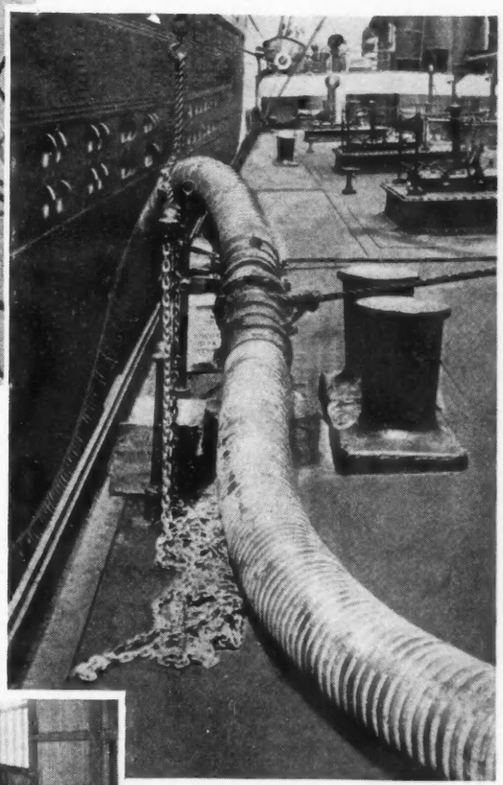
M. S. A. Electrostatic Dust and Fume Sampler—This is a new instrument designed for quantitative sampling of dust, fume, and mist. It is compact and easy to use for sampling from the general atmosphere, stacks, or ducts; and is the only efficient sampler for fumes, particularly lead fumes. Other features are: Large sampling volume of 3 cubic feet per minute; extension tube for sampling at breathing level when the apparatus is on the floor; and four aluminum tubes in which to collect samples and make determinations by weight, count or chemical analysis.

M. S. A. Combination Skullgard-Welding Shield — A two-fold safety product that affords proved head protection and comfort of M. S. A. Skullgards with the regular protection of a better welding shield. The Skullgard may be easily and quickly removed from the welding shield and worn, peak forward, separately for other work when desired. The easy-tilting welding

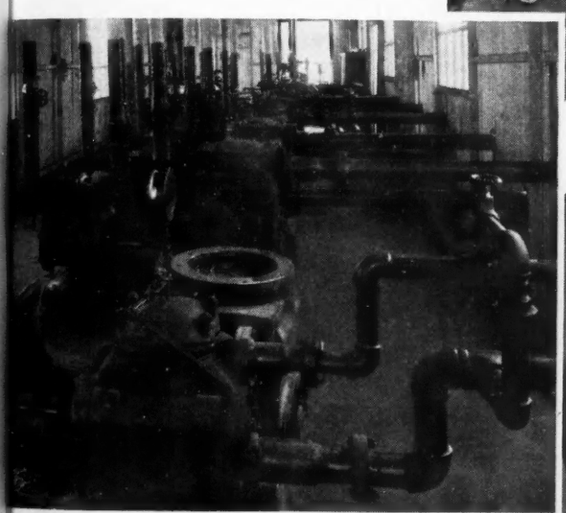
Right WITH OIL... FROM THE GROUND UP!



Taking shock pressures, bruising vibrations, constant flexings... helping the world drill deeper wells... with U. S. Rubber MATCHLESS Rotary Hose.



Speeding liquid horsepower on its way. Fuel oil being transferred from barge to steamer through "U. S." Amazon Oil Suction and Discharge Hose.



Handling volatiles is hazardous; so modern refinery pump rooms use only the best packings. This room is 100% equipped with "U. S." Packings.

Twist it... bend it... in cold or hot weather... U. S. Peerless Synthetic Rubber-Lined Gasoline Hose is always flexible.

Pumping mud under tremendous pulsating pressure in deep well drilling... Matchless Rotary Hose! Loading and discharging oil or gasoline from terminals to tankers, and vice versa... Amazon Suction and Discharge Hose! Handling oil and oil derivatives from refinery through pipe line, tank car, and tanker... a variety of U. S. Rubber Hose and Pump Packings! Speeding discharge of gasoline, through its smooth, synthetic rubber tube, from curb pump to car tank... Peerless Gasoline Hose! All doing their jobs... and doing them well, because U. S. Rubber engineers have learned about oil from the ground up.

All over the world, in every important oil center, you'll find U. S. Rubber representatives... trained consultants in mechanical rubber goods problems... ready to help you with your job. Write our branch nearest you, or direct to

UNITED STATES RUBBER COMPANY
US
TRADE MARK

United States Rubber Export Co., Ltd.
1790 Broadway, New York, N.Y.

Listen in: Raymond Paige, 99 Men and A Girl, Wednesdays C. B. S., 10 P. M., E. S. T.

shield itself is the latest one-piece type with leak-proof lens holder.

M. S. A. Coated Cover Glass—This new glass increases the efficiency of welders and cutters. No longer will they find it necessary to change frequently the plain cover glass protecting their shaded lenses. M. S. A. cover glass is specially processed on one side to eliminate the many disadvantages of the plain type. The surface of this new glass resists molten sparks and, therefore, does not easily become pitted, allows clearer vision, reduces eye strain and results in better work.

M. S. A. Hydrocyanic Acid Gas Detector—This detector indicates gas concentrations in amounts ranging from 0.005 percent to 0.10 percent by volume. This new detector can be used by any workman. It gives an accurate reading in less than two minutes, is small, light, convenient to carry, and simple to operate. It provides a simple means of detecting the presence of HCN in questionable atmospheres, before releasing materials for shipment or permitting reoccupation of a fumigated area.

M. S. A. Benzol Indicator—This is a modified combustible gas indicator that is supersensitive to benzol. It is compact, portable, ruggedly-built, and designed specifically for determining benzol concentrations which might be dangerous to the health of workers.

M. S. A. Midget Impinger—This impinger is the latest development in dust sampling apparatus. This new instrument is small, compact, weighs less than ten pounds, and is operated with a hand crank. Isolated locations, confined spaces, lack of electric current, or compressed air present no barriers. Its accuracy makes it indispensable for dust control work and surveys.

M. S. A. One-at-a-Time Pocket Dispenser—A pocket dispenser that provides each workman with his individual salt supply wherever his job may be. It is convenient, sanitary, time-saving—a slide of the box lid automatically dispenses a single tablet, without fumbling or spilling the reserve supply.

M. S. A. "1500" Salt Tablet Dispenser—This dispenser is made of corrosion and breakage-resistant bakelite. It is dust-proof, weather-proof and equally adapted to inside or outside use.

M. S. A. Displacement Blower—It supplies air metered to the worker's requirements, under definite control and with nearly effortless ease of operation. It is built with the latest type sealed ball bearings throughout, and is permanently lubricated. A specially-designed, calibrated pressure-release valve permits regulation of the air delivery to the wearers of the masks, thus assuring a comfortable supply of air with minimum revolutions per minute.

M. S. A. Fire Blanket—This blanket offers a refuge wherever fire may peril the worker. In external appearance, the unit is a trim metal case, 70 inches high, finished in bright red crackle. A loop of fireproofed rope extends at a convenient height from the right-hand edge of the door. In an emergency, the victim simply grasps the loop with his right hand and pulls. As he does so, the door opens and the blanket moves forward, unfolding as the user revolves to the left—quickly enveloping him from head to foot and smothering the flames. The blanket measures 66 x 82 inches, is all wool and fireproofed.

REPRESENTATIVES: G. J. Gruber, H. L. Phillips, R. M. Nicholson, H. W. Richards, P. B. Simpson, sales representatives.

Double Seal Ring Company

FORT WORTH, TEXAS
Booth 230

EXHIBIT: Double Seal piston rings.

NEW PRODUCTS:

One-Piece Double Seal Piston Ring—This new one-piece ring will not break in service, even in badly tapered cylinders, nor in engines using narrow rings, the manufacturer claims.

REPRESENTATIVES: William S. Baker, M. L. Munday, A. R. Clark.

Cavins Bailer Service

HOUSTON, TEXAS
Booths 600, 601

EXHIBIT: Cavins Hydromatic-suction bailer. Cavins hydraulic-suction bailer. Screen and perforation washer. Cavins hydraulic suction fishing baskets.

REPRESENTATIVES: Tom Sharp, manager; Wilber Maxwell, district superintendent; Darrell Blair.

Mission Manufacturing Company

HOUSTON, TEXAS
Booths 304, 306, 405, 407

EXHIBIT: Mission rotary slips in one-piece and two-piece types. Casing slips. Tubing spiders. Slush pump valves. Seat pullers. Slush pump pistons. Piston rods. Seal-sealing gland packing. Valveless swabs. Casing swabs. Plug valve.

NEW PRODUCTS:

Mission "Rolling Dog" Rotary Slips—These one-piece type slips are designed for maximum safety and reliability and are recommended for use in very deep wells. Hinged so that all segments must remain at the same level in the rotary at all times, they give protection against crimped pipe due to slips being uneven as they grip the pipe.

Mission One-Piece Rotary Slips

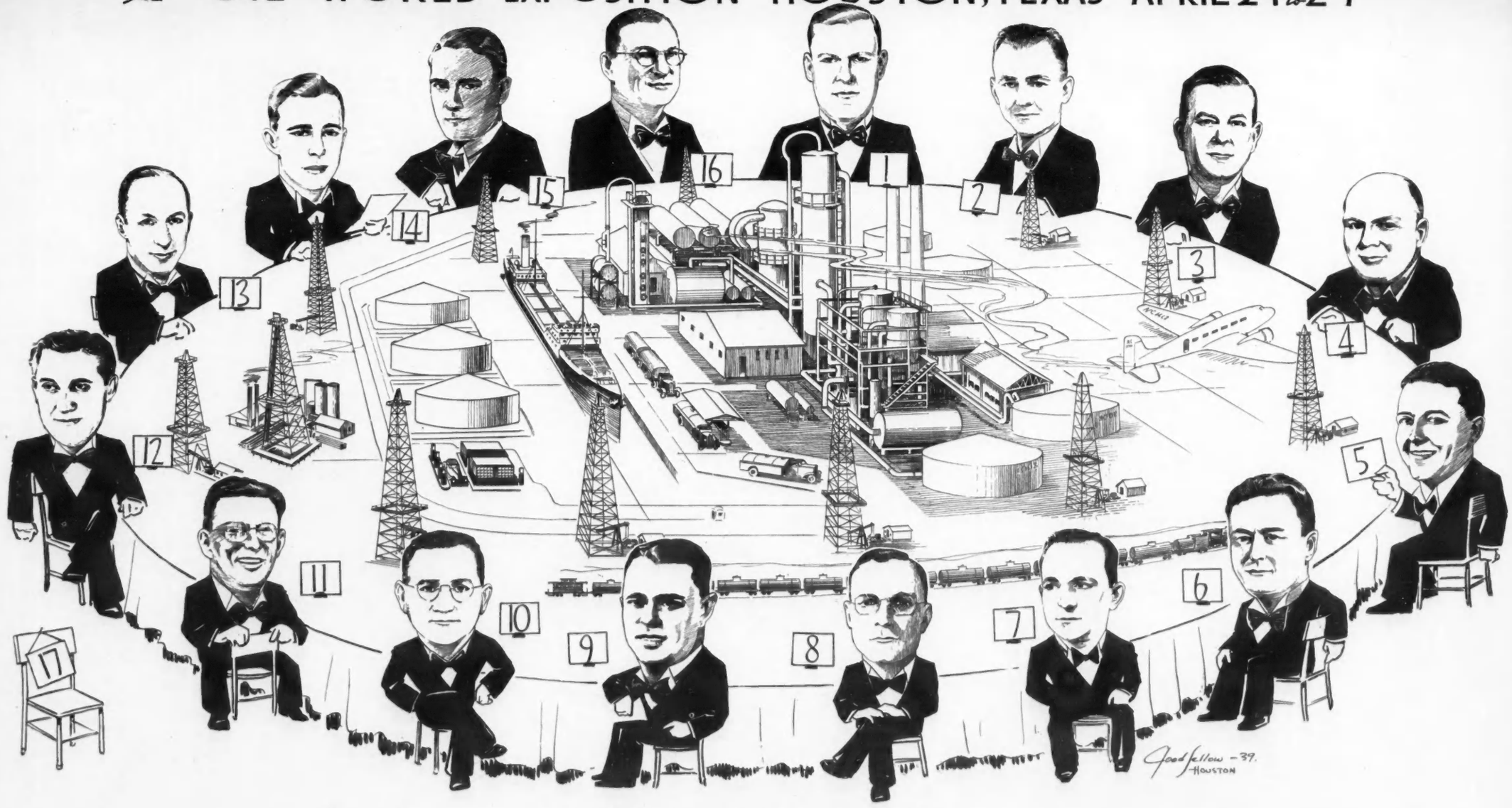
Mission Casing Swabs—This casing swab weighs only 29 pounds. Swabs may be changed in one minute. When used on top of tools, as in wells cased to bottom or near bottom, the two valves are simply clamped around the line above the rope socket which functions as a seat for the swab. A wire rope clamp placed just above the swab prevents it from going up the line while running in. Lightness and the fact that there are no joints to make or break account for the quick changing time. It may be run above socket in gun perforated casing jobs; when used on bottom of tools as in open hole, a special mandrel for supporting the swab is screwed into the bottom of the tools. It is rubber protected by a shoulder on fluid tubes; the operator can compensate for wear on rubber by tightening nuts on the fluid tubes; the nuts won't vibrate off; and the swab swivels on line.

Mission Casing Swab

Mission Self-Sealing Gland Packings—This method of sealing greatly prolongs the life of piston rod and gland packing as it prevents cutting of rod by leaking fluid. The seal is positive and increases as the pressure is raised.

Mission Self-Sealing Gland Packing

The OIL WORLD EXPOSITION HOUSTON, TEXAS APRIL 24 to 29



AMONG THOSE PRESENT

1. J. S. ABERCROMBIE, J. S. Abercrombie Co.
2. A. J. PENICK, Oil Center Tool Co.
3. E. A. SHOWERS, Showers-Moncrief, Inc.
4. JACK FRAZIER, Oil Operator.
5. T. E. FAILING, Geo. E. Failing Supply Co.
6. AL BUCHANAN, Buchanan Drilling Co. (Adv.)
7. EARLE M. JORGENSEN, Earle M. Jorgensen Co., selling Bethlehem Steel.
8. C. K. STILLWAGON, Well Equipment Mfg. Corp.
9. T. N. HUNT, Hunt Tool Co.
10. C. L. CLAUSEL, A-1 Bit Co.
11. J. M. (Skeet) O'MELVENY, Patterson-Ballagh Corp.
12. LOUIS M. PEARCE, Texas Iron Works
13. C. P. PARSONS, Halliburton Oil Well Cementing Co.
14. A. P. KING, Jr., Oil Operator.
15. W. T. MORAN, The Moran Corp. of the South.
16. W. N. BONNER, W. N. Bonner and Normandie Oil Co.
17. Reserved for GEORGE L. RATCLIFFE, Baroid Sales Dept.

Mission Plug Valve

The packing is under pressure only when the seal is needed.

Mission Plug Valve—This is a new design in plug valves, having a two-piece, straight plug. This special design insures a perfect fit with less friction, resulting in a sure seal-off and extreme ease of opening, it is claimed.

REPRESENTATIVES: W. T. Campbell, vice president and sales manager; Johnnie Best, assistant sales manager; R. M. Garrison, chief engineer; E. H. Trammell, manager of export.

Calmec Manufacturing Company, Ltd.

LOS ANGELES, CALIF.
Booth 1556

EXHIBIT: Assortment of oil well specialties that will include the line of Calmec valves, cement heads, chain tighteners, hardened steel pump liners for slush pumps, wire line spoolers, tubing spiders and one-man drill pipe spiders.

REPRESENTATIVES: A. S. McIntyre, vice president and general manager; J. E. Young.

Gray Tool Company

HOUSTON, TEXAS

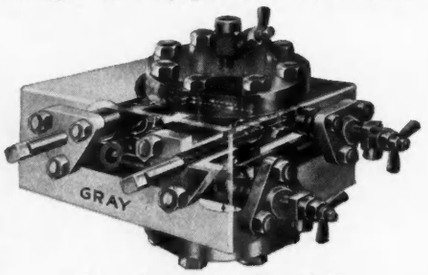
Kerotest Manufacturing Company

PITTSBURGH, PENNSYLVANIA
Booths 444, 448, 545, 549

EXHIBIT: Gray swivels. Fishing tools. Back-up tools. Float Valves. Systems of well control and accessories. Valve removal tools. Christmas tree and manifold assembly.

NEW PRODUCTS:

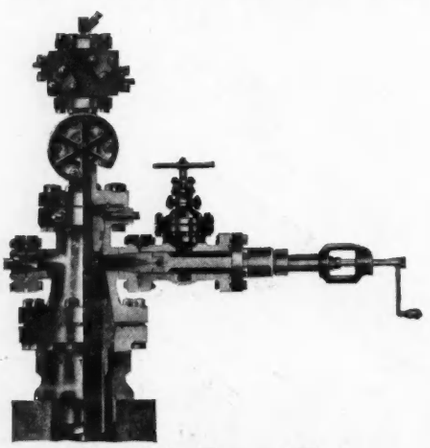
Gray Composite Manifold—This manifold is a Christmas tree and flow line manifold all in one, to provide an efficient well control. Advantages claimed are: concentration of parts effects true economy without sacrificing quality; has the advantages of a two-wing manifold; all working parts easily repaired or replaced; in no way affects other operations on the well; easy removal under equalized pressure of valves or fittings from any part of the Christmas



Gray Composite Manifold

tree. Uses are: to repair damaged or leaky valves without killing the well; to remove excess valves for use elsewhere; to replace obsolete parts with improvements; to install additional valves and fittings should they be required.

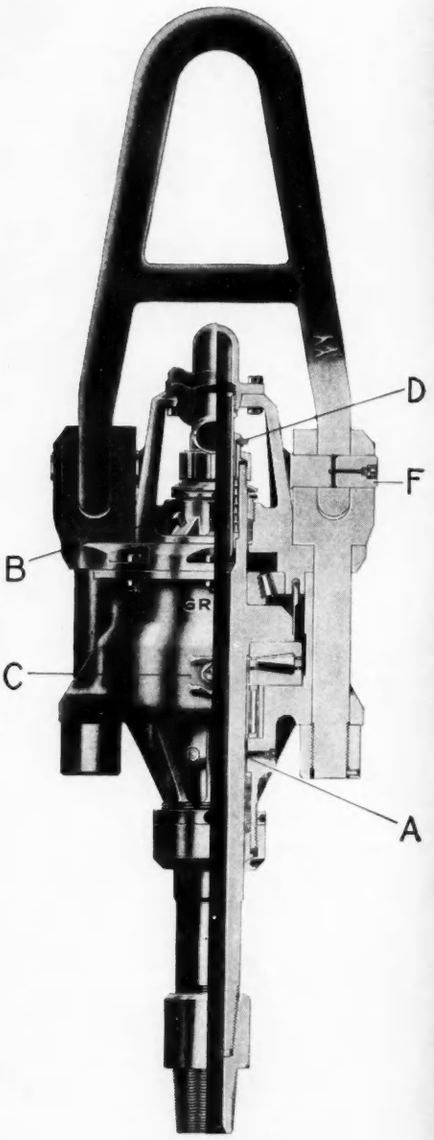
Gray Valve Removal Tool—For removal under equalized pressure of valves or fittings in any part of a Christmas tree. It is used to repair damaged or leaky valves without kill-



Gray Valve Removal Tool

ing the well, to remove excess valves for use elsewhere, to replace obsolete parts with improvements, and to install additional valves and fittings should they be required.

Gray Swivels—These Gray Type "B" swivels have a capacity of 422,000 pounds at 100 r.p.m., balanced design, and thorough utilization of proper materials, it is claimed. Advantages claimed are: bearings and mountings especially made for deep drilling and high rotating speeds; forged heat treated alloy steel suspension members; load carried from bottom; true Apex main bearing for easy rotation at all speeds and loads; lubricated, non-adjustable wash pipe packing unit; lubricated bail bolt pins; stem mounted with three roller bearings to assure proper alignment; oil reservoir to maintain proper lubrication for upper bearings;



Gray Swivel

maximum strength, minimum weight; low maintenance cost.

REPRESENTATIVES: R. A. Mueller, president; Roger Smith, vice president; Ray E. Kollar; C. E. Richards, sales manager; John Lemley; Earl M. Weaver; C. E. Heath; J. R. Yancey, chief engineer, of Gray Tool Company.

H. C. Potts, vice president; W. G. Swaney, general manager; J. D. Isaacks, C. C. Trees and Shep Miers, district managers, of Kerotest Manufacturing Company.

Linde Air Products Company

NEW YORK, NEW YORK
Booths 109, 111, 113, 115

EXHIBIT: Demonstrations of shape-cutting with oxy-acetylene cutting machines and welding of oil well casings. Pipe cutting machine, and other oxy-acetylene welding and cutting equipment. Flame-hardening apparatus.

THE GREATEST VALUE IN LUFKIN'S HISTORY

Lufkin's TC-55-7A for Shallow Production, Polish Rod Capacity 10,000 pounds, Stroke 22", 32" and 42", Weight Complete 11,660 Pounds.

"All set" for immediate delivery. This stock of LUFKIN units will soon be en route to Illinois oil fields.

The Greatest Value in Lufkin's History is the new **Lufkin TC-55-7A Unit Assembly**—an economical and substantial unit for shallow production.

This unit, designed after the fashion of the larger LUFKIN units, is made of the same quality materials in every detail and is given the same degree of inspection for fine workmanship.

A modified Trout Conterbalance Crank is a part of the new assembly with the advantages of sliding weights which has made the LUFKIN Crank a leader.

The complete assembly includes wire line hanger, counterweights, slide rails, belt cover, belts and motor sheave, and the base is furnished for any type prime mover.

LUFKIN PUMPING UNITS

LUFKIN UNITS are manufactured in Lufkin, Texas, by the Lufkin Foundry & Machine Company. Branches in principal oil centers

PRODUCTION-PIPE LINE EQUIPMENT AT OIL-WORLD EXPOSITION

The Continental Supply Company
DALLAS, TEXAS

Broderick and Bascom Rope Company
ST. LOUIS, MISSOURI

Clayton Mark and Company
CHICAGO, ILLINOIS

Climax Engineering Company
CLINTON, IOWA

D & B Pump and Supply Company
LOS ANGELES, CALIF.

Emsco Derrick and Equipment Company
LOS ANGELES, CALIF.

Fairbanks, Morse and Company
BELOIT, WISCONSIN

Farrar and Trefts, Inc.
BUFFALO, NEW YORK

The Falk Corporation
MILWAUKEE, WISCONSIN

Gardner-Denver Company
QUINCY, ILLINOIS

Mechanical Rubber Company
PASSAIC, NEW JERSEY

New Bedford Cordage Company
NEW YORK, NEW YORK

Westcott Valve Company
EAST ST. LOUIS, ILLINOIS

Youngstown Sheet and Tube Company
YOUNGSTOWN, OHIO

Booths 328, 330, 332, 334, 336, 338, 340, 429, 431, 433, 435, 437, 439, 441.

EXHIBIT: A wide variety of drilling and production equipment manufactured by its affiliated concerns, details of which follow under the name of each manufacturer:

Broderick & Bascom Rope Company's oil industry wire rope, including drag lines, sand lines, rod lines, and winch lines. A miniature wire rope machine explaining wire rope manufacture.

Clayton Mark & Company's handlebar check union and handlebar union.

Climax Engineering Company's H-4-B Blue Streak engine for pumping service.

D & B Pump and Supply Company's general line of pumping equipment, including pumps, and surface and subsurface accessories. Many of these will be shown in cutaway sections.

Emsco Derrick & Equipment Company's auxiliary steam engine drive and the Emsco KS-27½ rotary machine.

Fairbanks, Morse & Company's F-M 15-horsepower Type "Z" engine, now adapted to oil field pumping.

Farrar & Trefts, Inc., oil country boilers.

The Falk Corporation's 70CD gear unit, representing a complete line of double reduction gears for pumping work. Speed reducers. Motor reducers.

Gardner-Denver Company's 9½ x 8 vertical steam engine.

Mechanical Rubber Company's belting, hose and packing. Included is the company's Super Rough Rider Rotary Hose.

New Bedford Cordage Company's spinning lines, catlines, drilling cables, pull rods and samples of manila fiber from which they are made.

Westcott Valve Company is exhibiting sectionalized models of its valves, and a Christmas tree made completely of aluminum.

Youngstown Sheet and Tube Company's new seamless mill is shown in detail through each step of manufacture.

NEW PRODUCTS:

Emsco Auxiliary Steam Engine Drive with a Gardner-Denver 9½ x 8 Vertical Steam Engine—This unit, shown in operation, normally consists of a 14 x 14 Gardner-Denver horizontal steam engine, and ordinarily is used for drawworks engine, but in addition the Gardner-Denver 9½ x 8 vertical steam engine is provided as auxiliary prime mover. It is used principally to drive the rotary table; however, by means of the Emsco auxiliary drive, extremely flexible operation is said to be obtained. It is possible to "drill up" while the rotary machine is in operation. Either engine may operate the drawworks or rotary machine in emergencies, an important safety feature in deep operations.

Steam economy during rotation operations is claimed for the Gardner-Denver 9½ x 8 vertical engine, due to the use of a variable cutoff. This sturdy, strong engine is capable of high speeds, and is suitable to handle long pipe strings. The vertical engine is recommended also for driving power slush pumps or for independently serving as a prime mover for the rotary machine.

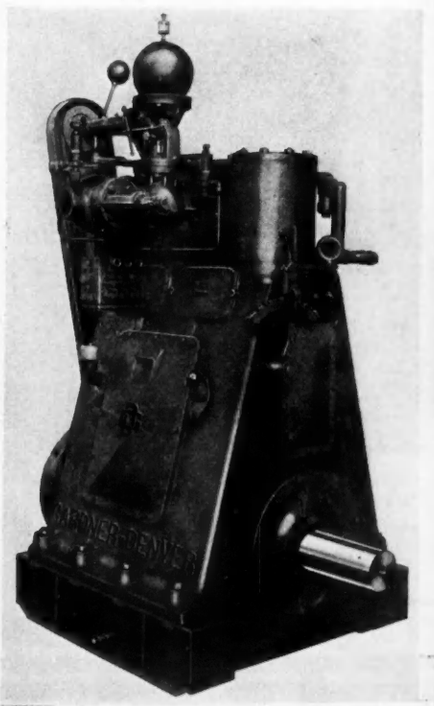
Handlebar Check Union — Clayton Mark & Company's new handlebar check union is exhibited in actual operation at a number of different positions. Cutaway views show how positive sealing and full flow is accomplished.

Climax H-4-B Blue Streak Engine—This engine, designed expressly for oil well pumping service, is equipped with extra heavy flywheels to provide smooth pumping cycle. Box base construction provides a large oil sump as well as structural stability. An oil field type governor, numerous safety devices, and a running type oil gauge are other features.

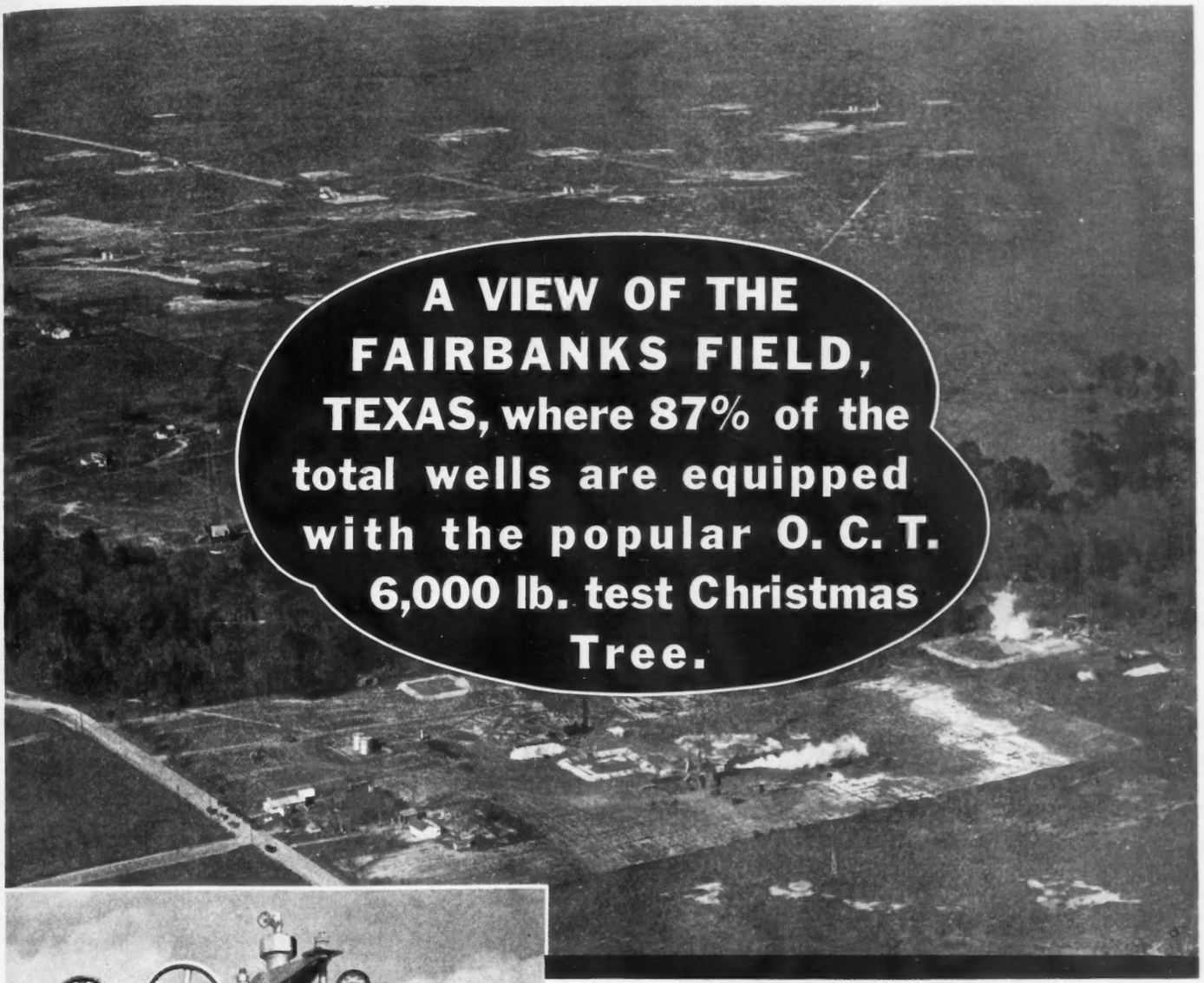
Emsco KS-27½ Rotary Machine—This fully enclosed table, featuring flood lubrication and spiral bevel gears, is of fabriform construction. The main bearing is preloaded, preventing hammering of the races when the table is run under light load. A patented design is included which allows the drill stem bushings to be driven direct by the table, eliminating the driving of the drill stem bushing through the master bushing.

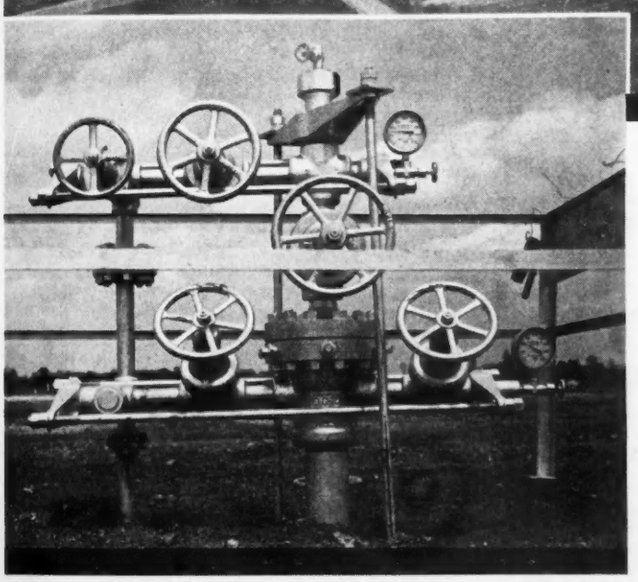
Fairbanks, Morse 15-horsepower Type "Z" Engine—This engine is exhibited in its new role as an oil well pumping engine. Now adapted for pumping service, it has extra-heavy flywheels, force feed lubrication, and is totally enclosed. A radiator is optional equipment, and provides ample cooling for 24-hour operation. Other features of the engine are a V-belt driven circulating pump, exhaust silencer and a Type "J" clutch.

Farrar & Trefts All-Welded Boiler—A new all-welded "High Power" oil country boiler is on display in Space 1022, outside the Exposition Hall. The all-welded boiler features light weight, easy washing and cleaning, no rivet joints, and low maintenance cost. A



Gardner-Denver 9½ x 8 Vertical Steam Engine





6,000 lbs. test O-C-T Christmas Tree using O-C-T type T-16 Tubing Head

SEE O-C-T-
Equipment
AT THE
OIL-WORLD EXPOSITION
HOUSTON . . . APRIL 24-29

BOOTHS: Inside: 400-401-402
Outside: 1049

VAL R. WITTICH, JR., Export Representative,
30 Rockefeller Plaza, New York, New York

● Manufacturers of Quality Products for leading Majors and Independents the world over.

OCT
OIL CENTER TOOL CO.
HOUSTON, TEXAS.

streamlined effect is obtained with the elimination of riveted joints.

Falk 70CD Gear Unit—Herringbone gears as used in the 70CD oil well pumping unit were pioneered by Falk and cut on special machines designed and used exclusively by Falk. Double end high and low speed shafts afford the advantage of assembling the brake or pulley on either side of the high speed shaft. The Falk Trough System of lubrication provides a clean supply of lubricant to all bearings, while special oil retainers prevent any leakage of oil and form an effective seal against the admission of dirt. Ratio of the 70CD unit is 30.4 to 1, and the peak torque capacity is 140,000 inch pounds.

REPRESENTATIVES:

From Continental Supply Company—W. J. Morris, president; F. M. Mayer, vice president and treasurer; F. I. Brinegar, vice president; W. G. Fitzpatrick, manager of sales; N. A. Endicott, assistant manager of sales; A. J. Olson, chief engineer; J. C. Slonneger, assistant chief engineer; J. A. Mussler, manager tubular sales; C. W. King, manager pipe department; H. E. Spencer, director of purchases; F. H. Thrailkill, district manager, Houston; E. N. Wood, district manager, Shreveport; C. N. Swanson, district manager, Tulsa; R. A. Brewer, district manager, Fort Worth; R. L. Collier, assistant district manager, Corpus Christi; J. H. Berry, assistant district manager, Wichita Falls, Texas; Wm. D. Craig, assistant district manager, Longview, Texas; F. J. Lafitte, district machinery sales representative; and R. E. F. Schmid, manager of Exposition.

From Broderick and Bascom Rope Company—D. Larkin, general manager; Fred Zimmerman, sales manager; M. R. Gayle, Mid-Continent sales manager; George T. Born, assistant sales manager; D. E. Dickey, research engineer; and R. A. Hill, Houston manager.

From Clayton Mark and Company—Ora Cox, sales manager, and T. Bruce Cox, field representative.

From Climax Engineering Company—E. F. Deacon, president, and T. L. Keeling, Mid-Continent sales manager.

From D & B Pump and Supply Company—E. E. Stevenson, general manager; R. H. Soll, metallurgist; and L. C. Scott, Mid-Continent manager of sales.

From Emsco Derrick and Equipment Company—G. W. Walton, vice president and Mid-Continent machinery manager; S. W. Webster, Mid-Continent sales and service manager; and L. W. Stahl, chief engineer, Houston plant.

From Fairbanks, Morse and Company—H. J. Renken, manager, oil field division; F. D. Ratcliffe, representative; H. D. Gobble, representative; and F. P. Grutzner, assistant chief engineer.

From Farrar and Trefts, Incorporated—John C. Trefts, president, and S. Mensonides, vice president.

From The Falk Corporation—W. P. Schmitter, chief engineer; W. L. Schneider, assistant sales manager; and T. F. Scannell, district manager, oil field division.

From Gardner-Denver Company—E. F. Schaefer, vice president; R. J. MacFarland, sales manager; and R. J. Bauer, representative.

From Mechanical Rubber Company—B. F. Ruether, president; W. E. Belcher, district sales manager; A. M. Langley, representative; and B. F. Franklin, representative.

From New Bedford Cordage Company—George W. Haywood, vice president, and H. W. Davis, sales manager.

From Westcott Valve Company—A V. Wadsworth, executive vice president; L. L. Scharf, assistant treasurer; W. C. Wadsworth, manager, Tulsa; and H. H. Tinch, manager, Houston.

From Youngstown Sheet and Tube Company—C. H. Longfield, general sales manager; M. S. Curtis, sales promotion manager; E. P. Corey, general manager, tubular goods sales; J. C. Siegle, general superintendent, tubular goods division; A. A. Chambers, metallurgist; G. W. Christopher, assistant manager, tubular goods sales; Harvey L. Miller, special representative in charge of oil country tubular sales; J. M. Jackson, district sales manager, Houston; L. E. Battin, salesman, Houston; George V. James, and Ed. Hendricks.

Macwhyte Company

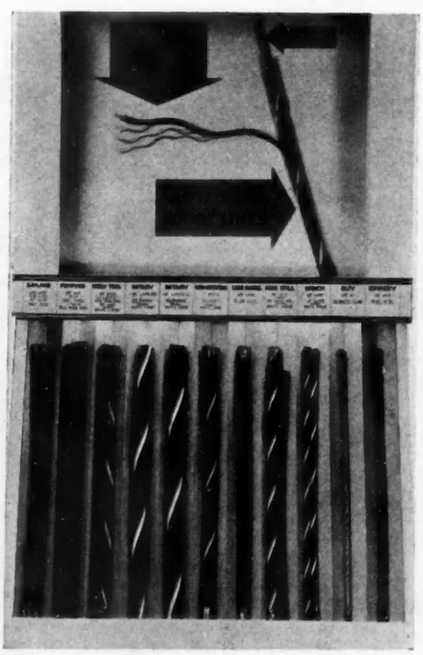
KENOSHA, WISCONSIN

Booth 513

EXHIBIT: Rotary lines. Cable tool drilling lines. Sand lines. Core barrel lines. Cracker lines. Tubing lines. Nonrotating lines.

NEW PRODUCTS:

Whyte Strand Preformed Rotary Line—A section of 1⅛-inch 6 x 19 FB (filler wire) 1 WRC (independent wire rope center) preformed Whyte strand rotary line is being shown pulled apart to display its many features of internal lubrication, preforming, special wire and strand construction.



Macwhyte Wire Lines

REPRESENTATIVES: J. S. Whyte, president and general manager; H. E. Sawyer, vice president and general sales manager; A. B. Moseley, assistant general sales manager; F. E. Bennett, G. Johnston, H. M. Robinson, sales representatives.

Atlas Supply Company

MUSKOGEE, OKLAHOMA

Driftmeter, Inc.

TULSA, OKLAHOMA

Weber Engine Company

KANSAS CITY, MISSOURI

Wheeling Steel Corporation

WHEELING, W. VA.

Steel Products Company

IOLA, KANSAS

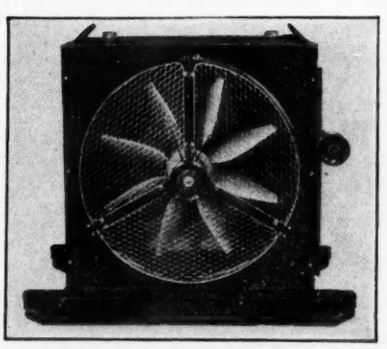
Booths 1412, 1414 and 1416

EXHIBIT: Atlas No. 401 shallow well pumping unit. Driftmeter No. B-63 radiator cooling unit. Weber Type "F" 25-horsepower vertical gas engine. Wheeling tubular products.

NEW PRODUCTS:

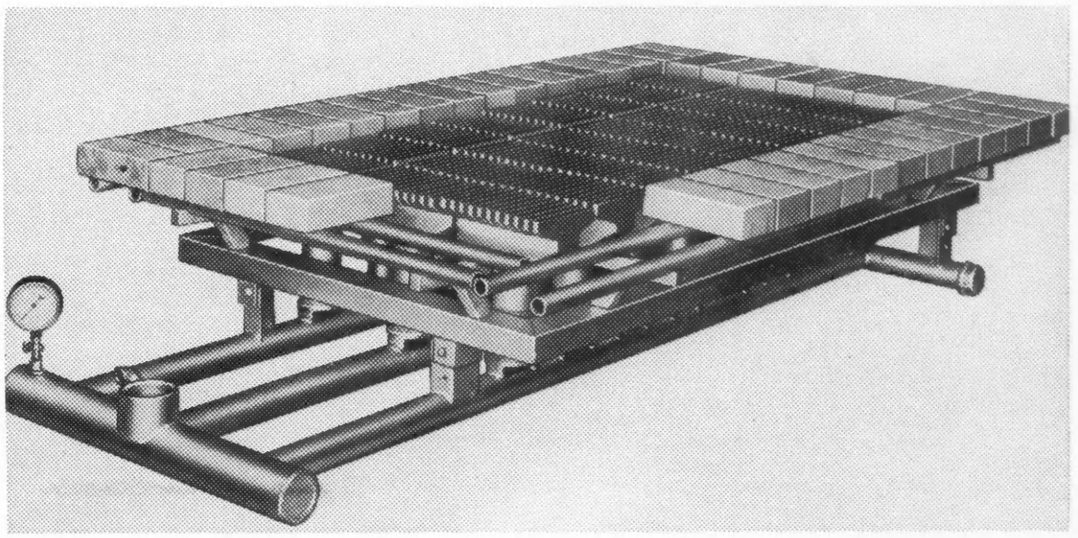
Atlas Pumping Unit—The Atlas No. 401 pumping unit is the smaller of two new sizes of shallow well pumping units recently introduced, and features a double reduction roller chain speed reducer. The unit has a 3.7 HP reducer mounted on a front rated at 4000 pounds capacity. It is equipped with roller bearings throughout. The unique method of chain adjustment will be of interest.

Driftmeter Radiator Cooler—The Driftmeter No. B63 radiator cooler is the smaller of eight new models of radiator coolers recently offered by Driftmeter, Inc., and ranging in capacities from 35 horsepower to 90 horsepower. In the new models, the water pump has been placed on the outside of the case to allow accurate proportioning of the pressure chamber depth. The same adjustable pitch, aeroplane type, propellor fan has been maintained because of its low horsepower consumption and high efficiency, although the use of a greater pitch angle has made it



Driftmeter Radiator Cooling Unit

Sonner Oilfield Burners

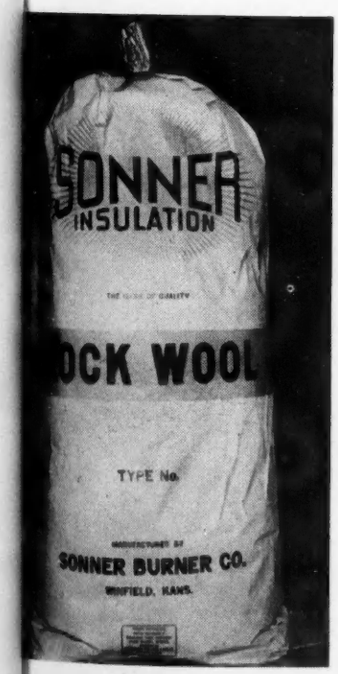


Sonner Standard AIR-COOLED *Burner*

The deep slot construction of the Sonner AIR-COOLED Burner Head permits the lowest possible turn down without danger of flash back and the unusually large cooling surface in the burner head prevents the deep slot from overheating. The Unit is completely automatic with respect to the air control and when used with a steam-actuated boiler fuel governor requires little or no attention. When you are ready to move, lift out the burner heads, disconnect the gas line, pull out the chassis and again you are all set — just a few minutes work. The Sonner AIR-COOLED Burner is engineered for oil field service, built to stand the gaff and yet as sensitive to changing load conditions as the most delicate measuring instrument. Built to sizes to cover a range of boilers from the 50 H.P. to 125 H.P. Special sizes and arrangements of burner units on order. In ordering state horsepower rating of your boiler and grate opening dimensions.

SONNER NON-FREEZE VALVE

The VALVE that eliminates water tank frost boxes and the aggravating trouble incident thereto. This valve shuts the water off 6 to 8 inches on the inside of the tank, thereby eliminating the danger of freeze-ups.

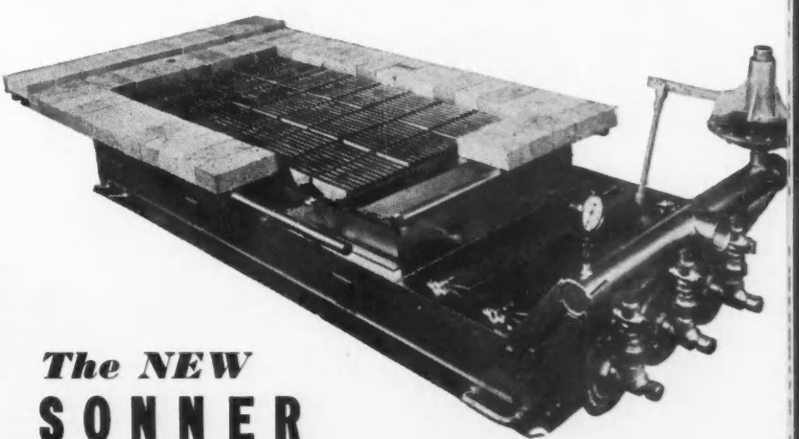


SONNER ROCK WOOL INSULATION

A Winter Blanket

The efficiency of Sonner Rock Wool is unsurpassed by any other building insulation. Easy to install in old buildings or new. Is FIRE, VERMIN and WEATHER PROOF. Cuts winter fuel bills by as much as 30 to 50 percent. Insulates against summer sun, pays for itself in a few years.

A Summer Shade



The NEW SONNER

Oil Field Gas Saving Burner

The Sonner Super AIR-COOLED Burner in a single compact unit slides under the boiler and can be installed in 30 minutes. Requires only from 2 to 5 pounds gas pressure. Can be adjusted while boiler is being fired at full load. Once adjusted requires no further attention. Will develop the highest possible overloads with absolutely no damage to the boiler, because the heat is applied to the crown sheet and flues instead of the sidewalls and mudring, thereby eliminating a lot of boiler trouble, as well as giving higher efficiency.

Sonner Burners may be purchased at any Leading Supply Company.
Write, wire or phone us for additional information.

Export Distributors: The OIL WELL SUPPLY COMPANY

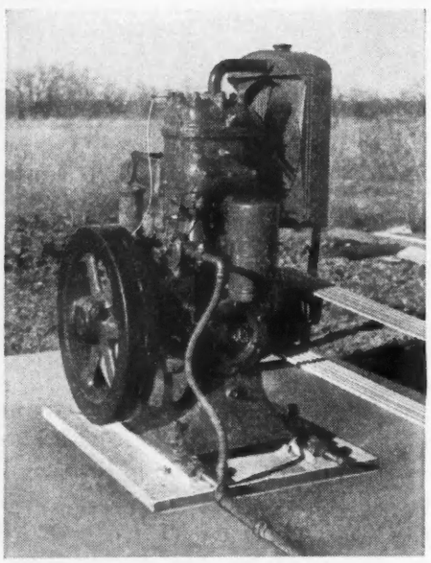
THE SONNER BURNER CO.

WINFIELD, KANSAS

SEE COMPOSITE CATALOG OF OIL FIELD EQUIPMENT PAGE 2065

possible to reduce the normal speed. Only two frame sizes are used, and small coolers may be converted to larger capacity units within the limits of each frame size, with either clockwise or anti-clockwise rotation.

Weber Type "F" Gas Engine—This engine is being exhibited for the first time at the Oil-World Exposition. It is a single cylinder, two cycle, vertical gas engine, with a 7½-inch bore and 9-inch stroke, rated 25 horsepower at



Type F Single Cylinder 2-Cycle Weber Gas Engine

550 RPM. The engine is equipped with a roller bearing crankshaft, centrifugal water pump, rotary magneto, and mechanical forcefeed lubricator. New improvements include weatherproof construction, making an engine house unnecessary, and a special anti-flooding valve and regulator.

REPRESENTATIVES: H. U. Everett, Fort Worth manager; Ben L. Jones, Houston; Bruce B. Gold, Tulsa engineer; J. R. Brooks, vice president and secretary; W. G. Burnside, vice president, The Steel Products Company; E. Tyler Davis, assistant general manager of sales, Wheeling Steel Corporation.

E. I. du Pont de Nemours & Company

WILMINGTON, DELAWARE
Booths 1124, 1126

EXHIBIT: Neoprene products, including that used in rotary hose, packers, slush pump pistons, submarine hose, gasoline pump hose, fuel oil hose, safety shoe hose, cable, special clothing, valves, couplers, saddles and molded goods.

NEW PRODUCTS:

Mareng Fuel Cell—This new fuel cell is a vibration-proof and oil-proof fuel tank.

REPRESENTATIVES: V. A. Cosler, Allen F. Clark, H. Logan Lawrence.

Technical Oil Tool Corporation

LOS ANGELES, CALIF.
Booth 228

EXHIBIT: Totco recorder for use in controlled vertical drilling, and the go-devil equipment required for all methods for running it in both rotary and cable tool drilled wells. A technical display of precision engineering and construction work. A display explaining controlled vertical drilling methods and the results of their application will be included.

NEW PRODUCTS:

Go-Devils—During the past year the standard and heavy duty go-devil equipment used for running the Totco recorder for controlled vertical drilling has been improved by the use of hard chrome plating that has been applied to both inside surface of the go-devil container body and the exterior surface of all the attachments. This results in the elimination of corrosion and simplifies cleaning of the running equipment, as well as extending its service life by reducing the effects of abrasion while running through the drill pipe. All parts and connecting threads have been standardized, and are made by precision machinery methods to insure complete interchangeability.

REPRESENTATIVES: J. B. Wood, president; J. V. Robinson, E. G. McConnell.

Nixdorff-Krein Manufacturing Company

ST. LOUIS, MISSOURI
Booth 1576

EXHIBIT: Welded chains. Tire chains for trucks and passenger cars. Tire chain accessories. Hooks and cold shuts.

REPRESENTATIVES: B. Sander, sales manager; W. E. Dorman, sales manager; E. Littmann, president; G. K. Morgan, distributor; and H. D. Whitley, distributor.

Happy Belting Company

TULSA, OKLAHOMA
Booth 1022-A

EXHIBIT: Happy chain driven pumpers. Young-Happy full flow engine jacket water coolers.

NEW PRODUCTS:

Model T-2-5 Happy Chain Driven Pumping Unit—This chain reduction unit is built into a heavily ribbed, cast iron case, employing the use of roller chains and roller bearings on the shaft. The reduction in the unit is 35 to 1, which permits the use of high speed prime movers. The special features of this unit are the cast iron case and the self-aligning, ball and socket type wrist pin and equalizer bearings.

Young-Happy Full Flow Engine Jacket Water Cooler—This cross-flow fin and flat tube type radiator employs the use of cast iron tank and multiple paths or water circulation. The radiator is mounted on synthetic rubber cushions to cut down the effects of shock or vibration, and also to allow for radiator expansion. Other features are the high head, high capacity pumps used.

REPRESENTATIVES: A. M. Butcher, engineer; A. F. Nixon, salesman; and J. R. Meek, salesman.

Rodgers Hydraulic Incorporated

MINNEAPOLIS, MINNESOTA
Booths 1404, 1406, 1505, 1507

EXHIBIT: 100-ton capacity Universal hydraulic press. 150-ton capacity Universal hydraulic press. 100-ton capacity hand-operated track press with electric motor attachment. 100-ton capacity two-cylinder small power track press. 100-ton capacity four-cylinder power pump with transparent cover.

NEW PRODUCTS:

Portable Hydraulic PressEquipment—This equipment is manufactured in a number of sizes from 60 tons capacity on up and is available for either hand or power operation. The units are portable and are easily transported in the field. Pump and cylinder of the units may be removed for other work, such as a jack or for driving pipe or tile.

REPRESENTATIVES: J. S. Rodgers, chief engineer and secretary; G. A. Rodgers, vice president; and J. G. Murphy, sales manager.

Chain Belt Company

MILWAUKEE, WISCONSIN
Booths 515, 517

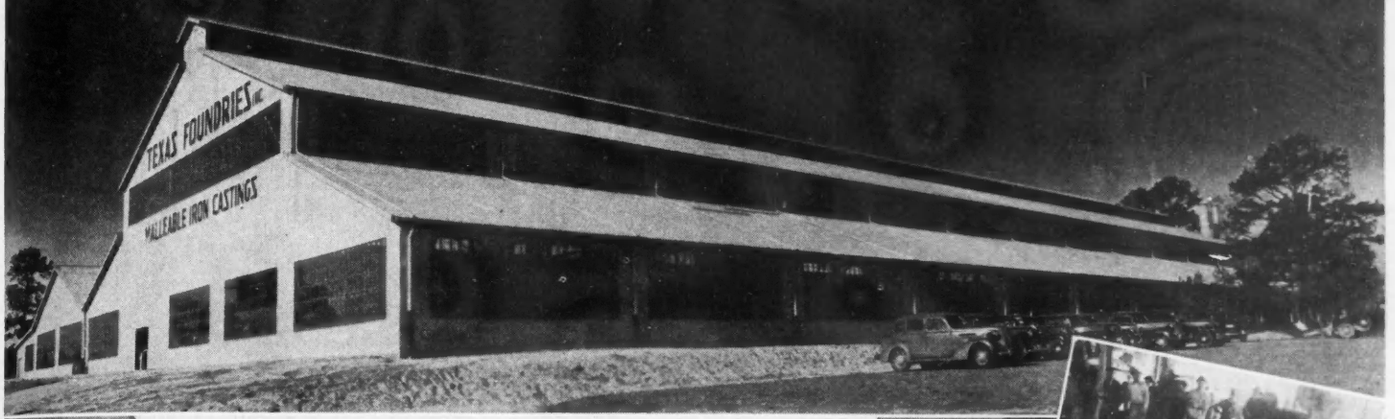
EXHIBIT: The following Rex rotary drilling chains: Deepwell A. P. I. No. 3 with 60,000 pounds ultimate strength; Deepwell A. P. I. No. 4 with 130,000 pounds ultimate strength; Champion A. P. I. No. 3 with 75,000 pounds ultimate strength; Champion A. P. I. No. 4 with 170,000 pounds ultimate strength; and Universal chain with 115,000 pounds ultimate strength. The following Rex drive chains for drilling and pumping equipment: No. 3120 roller chain with 32,500 pounds ultimate strength; No. 3140 roller chain with 45,000 pounds ultimate strength; No. 3160 roller chain with 55,000 pounds ultimate strength; No. E-3120 roller chain with 97,500 pounds ultimate strength; No. E-3140 roller chain with 135,000 pounds ultimate strength; No. E-3160 roller chain with 165,000 pounds ultimate strength; No. D-3120 roller chain with 65,000 pounds ultimate strength; No. D-3140 roller chain with 90,000 pounds ultimate strength; and No. D-3160 roller chain with 110,000 pounds ultimate strength. Pictorial exhibit of conveying equipment and construction machinery.

NEW PRODUCTS:

Rex Drive Chains for Drilling and Pumping Equipment—The Rex drive chains listed above are offered with offset sidebar construction.

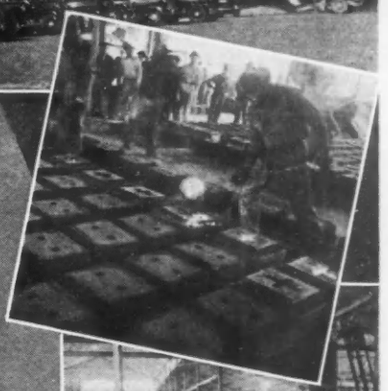
REPRESENTATIVES: Brinton Welser, vice president; Russell G. Davis, J. Walter Snavely, and W. A. Pitts.

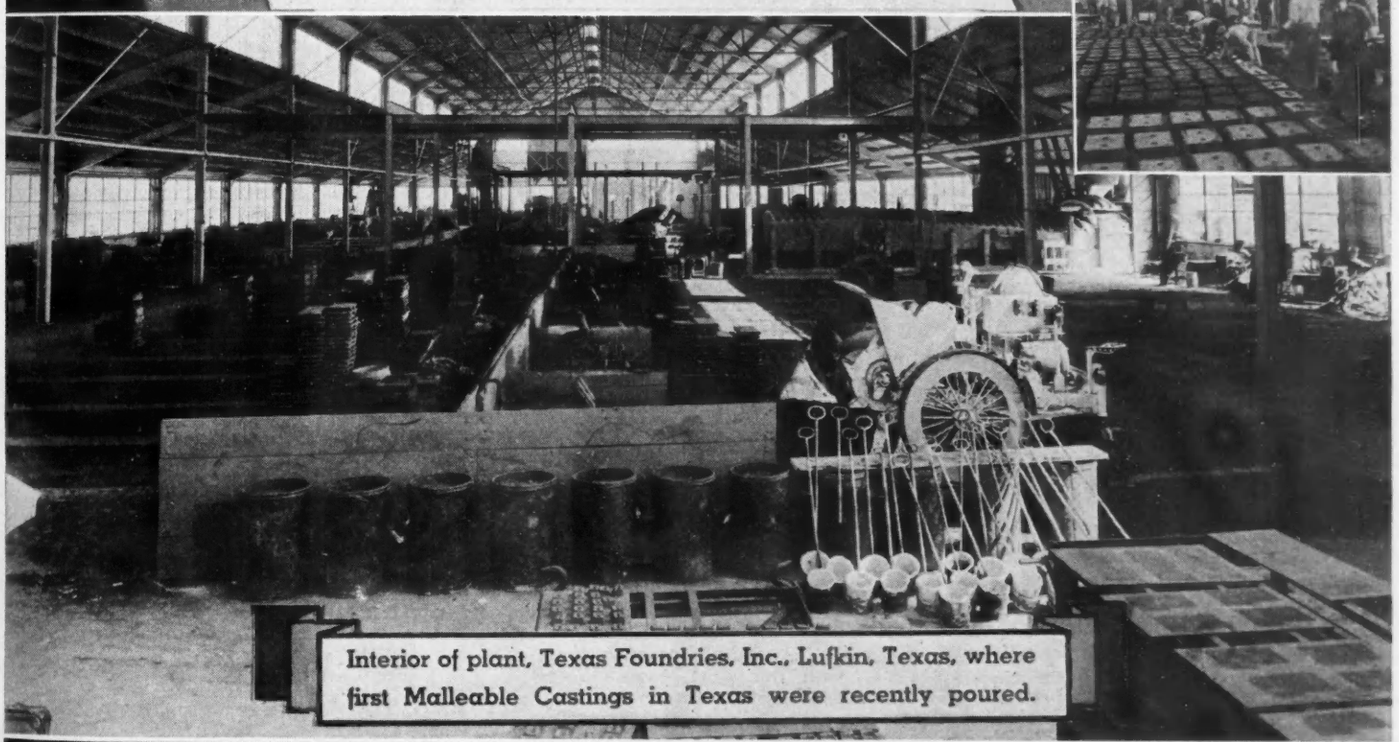
FIRST IN TEXAS



The first Malleable Castings ever to be made in Texas were recently manufactured in our Lufkin, Texas, plant. We particularly specialize in oil field Malleables where high shock resistance, high ductility and high speed machinability are important factors.

SEE OUR BOOTH ANNEX 13-25





Interior of plant, Texas Foundries, Inc., Lufkin, Texas, where first Malleable Castings in Texas were recently poured.

LUFKIN PLANT, TEXAS FOUNDRIES, INC.

• • • 75,000 SQ. FT. FLOOR SPACE • • •

J. E. Young
HOUSTON, TEXAS

Packing Engineering Corporation
CRANFORD, N. J.

Kaye & MacDonald, Inc.
WEST ORANGE, N. J.

Calmec Manufacturing Company, Ltd.
LOS ANGELES, CALIF.
Booth 1536

EXHIBIT: Packing Engineering Corporation's mechanical packing. Kaye & MacDonald, Inc., steam traps. Calmec Mfg. Co., Ltd., pump valves.
REPRESENTATIVES: J. E. Young.

Joyce Cridland Company
DAYTON, OHIO
Booths 408, 410

EXHIBIT: Joyce automatic lowering jacks. Rig builders' jacks. Emergency jacks. Self-lowering jacks. Ball bearing journal jacks. Malleable screw jacks. Hydraulic bumper jacks. Hydraulic truck jacks.
REPRESENTATIVES: Huston Brown, vice president, and Harry B. Burlow, district sales manager.

Norvell-Wilder Supply Company
BEAUMONT, TEXAS

Coffing Hoist Company
DANVILLE, ILLINOIS

Hewitt Rubber Corporation
BUFFALO, NEW YORK

Kennedy Valve Manufacturing Corporation
ELMIRA, NEW YORK
Booths 104, 106, 108, 110, 112, 114, 116, 118, 120, 205, 207, 209, 211, 215, 217, 219, 221.

REPRESENTATIVES: Representatives from all eight Norvell-Wilder stores and two offices will be in attendance.

Westinghouse Electric and Manufacturing Company
PITTSBURGH, PENNSYLVANIA
Booths 1207, 1209

EXHIBIT: A cutaway motor to show its construction, and another motor running under a spray of water to show its weatherproof feature. A gearmotor with a glass window over the gears so they can be seen operating. Operating model of a cutaway CSP transformer to illustrate how it protects itself from secondary overloads and lightning strokes. Cutaway capacitor unit and board. Demonstration of a Stroboscope on a stream of water. Sample of electric control for oil field pumping, and gear unit for pumping with top-half removed.

REPRESENTATIVES: M. L. Donaldson, manager, Houston office; W. C. Carter, Houston; W. C. Dreyer petroleum engineer, Dallas; R. A. Swindell, sales representative, Dallas; and Q. M. Crater, manager, petroleum section, East Pennsylvania works.

Petroleum Tire and Supply
HOUSTON, TEXAS
Booths 750, 752

EXHIBIT: U. S. Royal tires. U. S. raincoats, rubber boots. Miscellaneous rubber products.
REPRESENTATIVES: H. B. Cary and M. G. Veatch.

Worthington Pump and Machinery Corporation
HARRISON, NEW JERSEY

A. M. Lockett and Company, Ltd.
NEW ORLEANS, LOUISIANA
Booths 1327, 1329

EXHIBIT: Reception space. Revolving photograph cabinet showing photographs of equipment manufactured by Worthington, and installation photographs.

REPRESENTATIVES: From A. M. Lockett and Company, Ltd., Houston—F. D. Rahm, manager; J. E. Montgomery, sales engineer; R. W. Gesecus, sales engineer; E. J. Salaun, sales production division; and F. J. Ellis, manager of production division, Worthington Pump and Machinery Corporation.

Big Three Welding and Equipment Company
HOUSTON, TEXAS

Lincoln Electric Company
CLEVELAND, OHIO
Booths 735, 737, 739, 741

EXHIBIT: The following Lincoln Electric Company electric arc welders: 300 ampere, motor generator, S. A. E. type; 150 ampere, motor generator, S. A. type; 300 ampere, Diesel generator, S.A. E. type; 300 ampere, gasoline generator, S. A. E. type; and 500 ampere, motor generator, S. A. C. type. Full line of Lincoln Fleetweld electrodes and accessories. Lincoln conditioner.

NEW PRODUCTS:

Lincoln 500 Ampere S. A. C. Motor Generator Arc Welder—This 180-cycle alternating current welder is equipped with induction heating coils for preheating and stress relieving alloy and heavy wall, high pressure, high temperature pipe welds in the field. The machine can be used for regular welding duty when not used in stress relieving pipe welds.

Lincoln Diesel-Driven Welders—A complete line of these welders for pipe line and construction work where electric power is not available.

Lincoln Welders With Unburnable Insulation—A complete line of these light weight, low cost welders will be displayed.

Lincoln S. A. E. Model With Indicating Dial—This indicating dial makes it possible for welder or supervisor to adjust proper welding arc characteristics from an easily read dial. According to the manufacturer, production speeds and penetration can be increased considerably.

REPRESENTATIVES: From Big Three Welding and Equipment Company—B. K. Smith, president; B. J. Brugge, sales manager; A. K. Smith, sales representative; H. K. Smith, sales representative; L. L. Daigle, sales representative; G. B. Denny, sales representative; A. W. Benn, sales representative; and R. F. Hodges, sales representative.

A. C. Horn Company of Texas
HOUSTON, TEXAS
Booth 1301

EXHIBIT: Horn heat resisting paints for boilers and stacks. Exterior and interior paints for bunkhouses and buildings. Protective and decorative coatings, enamels and paints for mechanical equipment. Paints, primers and aluminum paints for pipe line tanks. Horn protectors and black primers for pipe lines. Aluminum paints, engine and pump enamels, floor enamels and paints for pumping stations. Protective and decorative coatings, enamels, and regular and heat resisting aluminum paints for mechanical refining equipment. Paints, enamels and varnishes for auto tank trucks. Protective and decorative coatings for pumps, lubsters and other mechanical equipment.

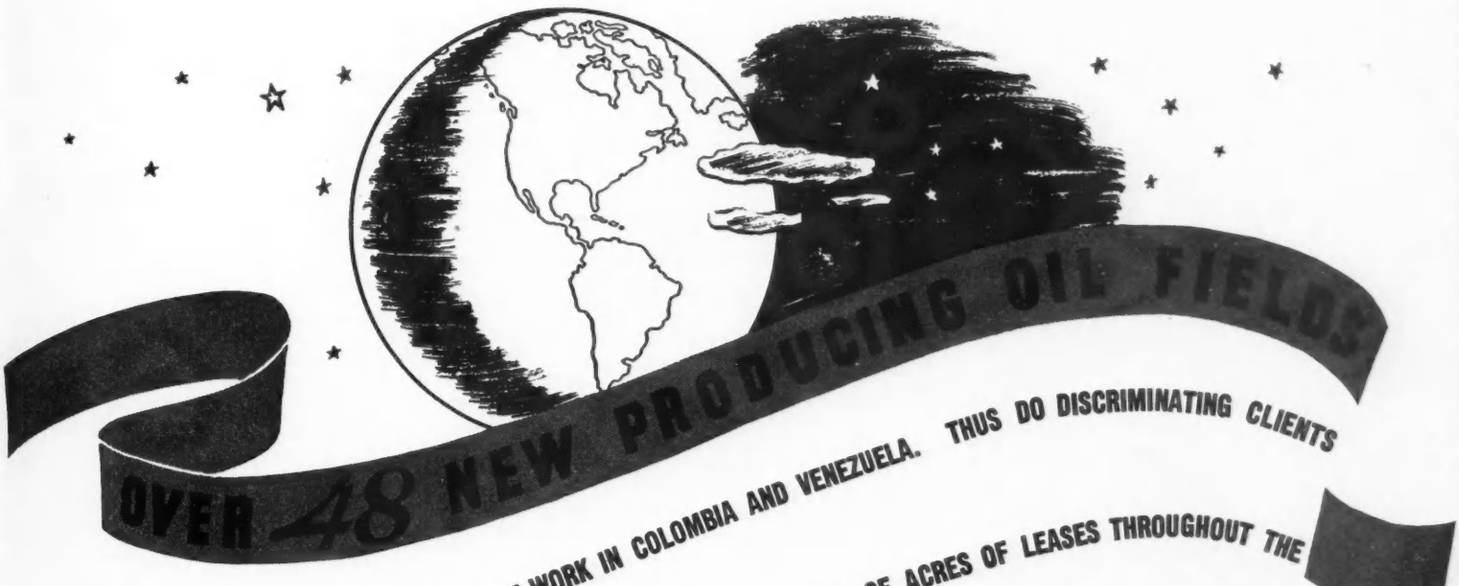
REPRESENTATIVES: Sam Glover, salesman, and Joe Branch, field engineer, from New York office; E. M. Bishop, president; C. E. Lambert, vice president; Fritz Daniels, research chemist; and A. L. Huntley, salesman.

Jarecki Manufacturing Company
ERIE, PENNSYLVANIA
Booth 746

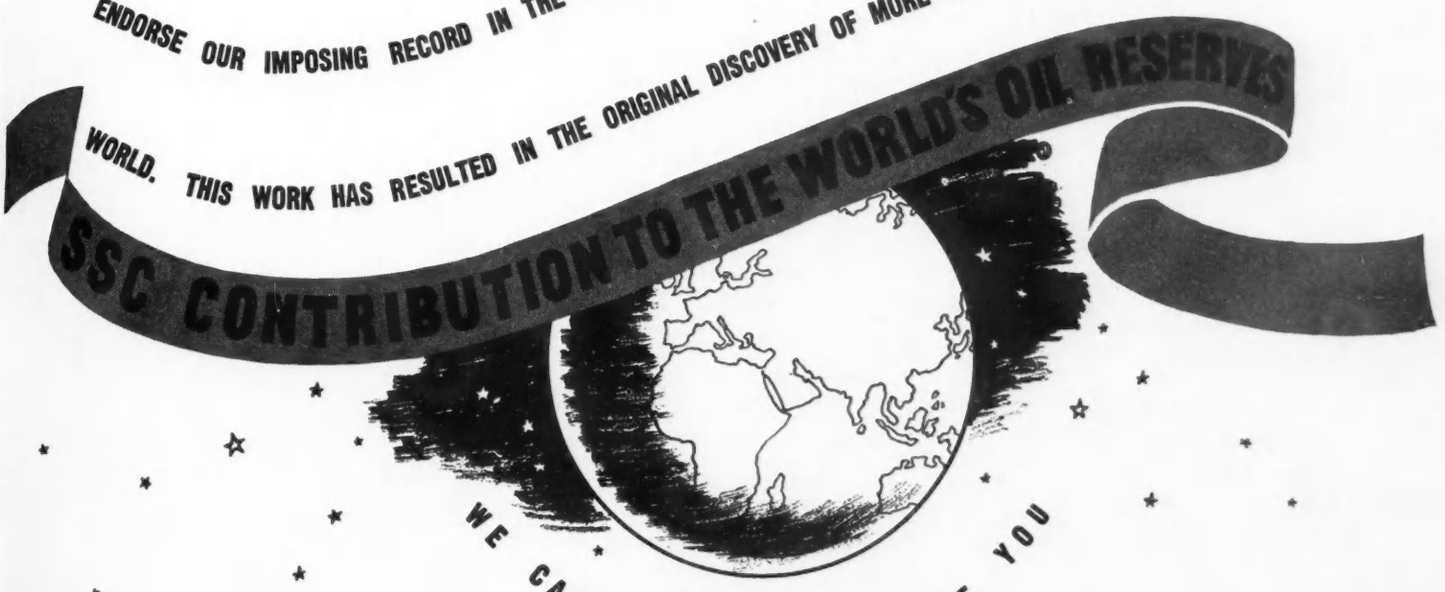
EXHIBIT: Jarecki brass and malleable valves and fittings. Gray iron pipe fittings. Brass and iron body gate valves. Jarecki oil well specialties.

REPRESENTATIVES: J. F. Eaton, B. B. Curry, Ed. S. Rankin, and N. G. Blankenship, all of the Houston office.

WORLD WIDE EXPERIENCE



THIS MONTH MORE SSC CREWS START WORK IN COLOMBIA AND VENEZUELA. THUS DO DISCRIMINATING CLIENTS ENDORSE OUR IMPOSING RECORD IN THE EVALUATION OF MILLIONS OF ACRES OF LEASES THROUGHOUT THE WORLD. THIS WORK HAS RESULTED IN THE ORIGINAL DISCOVERY OF MORE THAN 48 PRODUCING OIL FIELDS.



WE CAN PROFITABLY SERVE YOU

Seismograph Service Corporation

CONSULTING EXPLORATION GEOPHYSICISTS

KENNEDY BUILDING

TULSA, OKLAHOMA, U. S. A.

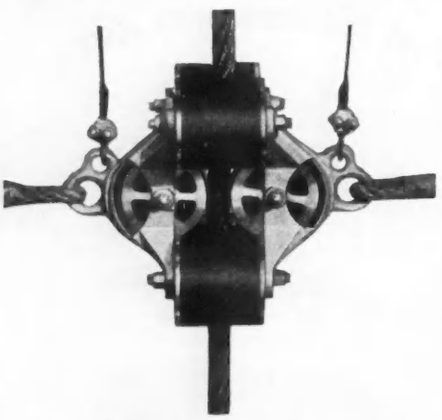
E. M. Smith Company

LOS ANGELES, CALIF.
Booth 1122

EXHIBIT: Grizzly full-moulded rotary brake blocks. Grizzly-Powerflex. Grizzly Red Line. Grizzly cub rotary hose. Grizzly giant drill pipe protectors. Grizzly tubing protectors. Grizzly unit pressure relief drill pipe protectors. Grizzly "No-Wip" wire line saver. Grizzly wire line turn back. Grizzly brake block band exchange plan.

NEW PRODUCTS:

Grizzly Brake Block Band Exchange Plan—According to the manufacturer, this plan, which saves time and labor and eliminates the difficulties of field installation such as incorrect sizes, improper fitting of lining to bands, out-of-round and worn bands, etc., provides the operator with new bands for all types of draw works, equipped with Grizzly full-moulded brake blocks precision fitted at the factory, at no extra cost. Blocks and bands are drilled correctly to manufacturers' specifications. Samples of new re-lined bands will be on display.



Grizzly "No-Wip" Line Saver

REPRESENTATIVES: Walter Smith, Paul Kelting, and Ed. Carter.

Gas Lift Corporation

HOUSTON, TEXAS
Booth 1215

EXHIBIT: Bryan Type "SDX" flow valve. Bryan Type "I" reversible flow valve. Bryan removable type bottom hole intermitters.

NEW PRODUCTS:

Bryan Removable Type Bottom-Hole Intermitters—This equipment was designed to eliminate the necessity of tubing jobs as changing well conditions dictate a change in the intermitting valve setting. The removable valve is compact and easily handled with a wire line and small fishing tools, and is built to stand all conditions of service. It is seated in a special By-pass Seating Chamber located in the tubing string directly above a packer and standing valve. As the fluid enters the tubing, it by-passes the valve, thereby eliminating the possibility of foreign matter fouling the valve mechanism.

REPRESENTATIVES: M. L. Stirling, sales manager; F. L. Nickle, chief engineer; J. E. Smith, sales engineer; E. C. Boyle, sales engineer; C. E. Tweedle, sales engineer; and R. L. McAdams, sales engineer.

Bettis Sales Company

HOUSTON, TEXAS

Pyle-National Company

CHICAGO, ILLINOIS

Beck Engineering Combustion Kompany

ST. LOUIS, MISSOURI

Texsteam Corporation

HOUSTON, TEXAS
Booths 1405, 1409, 1411

EXHIBIT: From Pyle-National Company—5 and 12 KW Turbo generators; 2-5 H. P. shale shaker turbine; 2 H. P. gas turbine pump; 23-inch, 14-inch, and 10-inch floodlights; explosion and vapor-proof electrical fittings. From Beck Engineering Combustion Kompany—low pressure gas burner unit. From Texsteam Corporation—safety valves and pressure chemical injector.

NEW PRODUCTS:

Pyle-National Explosion-Proof Turbo-Generators—An explosion-proof feature is shown on Pyle-National generators which, according to the manufacturer, insures against the danger of excessive back pressures in the exhaust line. Drop forged nickel steel turbine wheels insure against centrifugal explosion.

Gas Turbine Pump—This turbine centrifugal or gear pump unit, weighing but 162 pounds, operates off gas for circulating water and cleaning out in fields where gas is available.

Explosion and Vapor-Proof Electrical Equipment — Explosion proof switches and electrical fittings, and a new line of malleable conduit fittings put out by Pyle-National Company will be included with their other electrical lines.

Beck Melloblu Low Pressure Gas Burner Unit—This low pressure gas unit is designed for quick installation and proper setting in oil field burners. Included with the unit are secondary air shields arranged to minimize warping and to fit several sizes of boilers.

Texsteam Safety Valve—This new top and side outlet safety valve is designed to give great relieving capacity as required by the National Board and A. S. M. E. It has a hard nickel replaceable valve and seat.

Chemical Pressure Injector—This chemical injector, which operates on a few pounds gas or fluid pressure, can be adjusted from one-half pint to four gallons per day. A full stroke of the injector piston avoids air locking. All moving parts work in an oil bath.

REPRESENTATIVES: J. M. Sheesley, president, Bettis Sales Company; A. H. Johnson, vice president, Texsteam Corporation; and R. L. Kilker, factory representative, Pyle-National Company.

The Kron Company

BRIDGEPORT, CONN.
Booths 1577, 1581

EXHIBIT: Dial Crane scale. Dial platform scale. Pressed steel pallets. Platform Crane boxes. Tote boxes.

NEW PRODUCTS:

Kron Dial Crane Scale—This scale embodies the same principle of all Kron scales. It may be attached to Crane hoist-beam inside for taking off weight of blocks, chain, etc, so that net weight of load may be determined. Can be read from floor without lowering load. Can be swung on jib or other booms without fear of getting out of adjustment. Graduations in both standard numerals and kilos, up to 50,000 pounds. It has no springs. Noncorrosive metal is used in all shafts and other exposed parts. Standard mechanism is interchangeable with all types. It is said not to be affected by overloading. A frictionless and non-leakable oil dash pot, absorbs all shocks. Specially designed precision ball bearings (6 only) rigidly supported from all directions.

Kron Dial Platform Scale—This is a conventional rubber tired portable type. All visitors invited to weigh free on this scale.

REPRESENTATIVES: C. C. Forshey, district manager; Miss M. Brown, secretary.

Speeder Machinery Corporation

CEDAR RAPIDS, IOWA
Booth 1041-B

EXHIBIT: Model LS-40, ⅜-yard power shovel.

NEW PRODUCTS:

Model LS-40, ⅜-Yard Power Shovel—According to the manufacturer, this convertible full-revolving power shovel can exceed requirements of an ordinary

Speeder Model LS-40 3/8-Yard Convertible Power Shovel

GULF STATES SERVES THE GULF COAST

GULF STATES SERVES THE GULF COAST

GULF STATES UTILITIES COMPANY

GENERAL OFFICES- BEAUMONT, TEXAS AND BATON ROUGE AND LAKE CHARLES, LOUISIANA

⅜-yard rated capacity, so that the model may be operated at full speed and full capacity without fear of overloading. It has a traction speed of over 3 M. P. H. and is equipped with Caterpillar crawlers available in either flat or grouser-type tracks, specially heat treated for hard usage. Additional features of this model include a wide-vision, streamline safety cab; electric-welded alloy steels; over-sized clutches, brakes and shafting; balanced design; and advanced lubrication facilities.

REPRESENTATIVES: T. M. Deal, president; B. O. Eighmy, sales manager; and Harry H. Miller, Southwestern district representative.

Lufkin Foundry & Machine Company

LUFKIN, TEXAS

Space 1066-C Outside

EXHIBIT: The new TC-3-18A and TC-55-7A model pumping units.

NEW PRODUCTS:

TC-3-18A Unit—This is a single reduction herringbone gear unit rated at 27 horsepower with a maximum stroke of 54-inches and 17,000 pounds polish rod load. The unit has proved popular along the Gulf Coast area.

TC-55-7A Unit—This is a new unit in the Lufkin line and is especially recommended to operators looking for a small but substantial unit for shallow production. The unit is made along the same general lines as the larger units. It has been extensively used in the Illinois fields, having a maximum stroke of 42 inches and polish rod load of 8000 pounds.

REPRESENTATIVES: W. C. Trout, W. W. Trout, A. B. Bennett, L. A. Little and Don Kerr.

Rector Well Equipment Company, Inc.

FORT WORTH, TEXAS

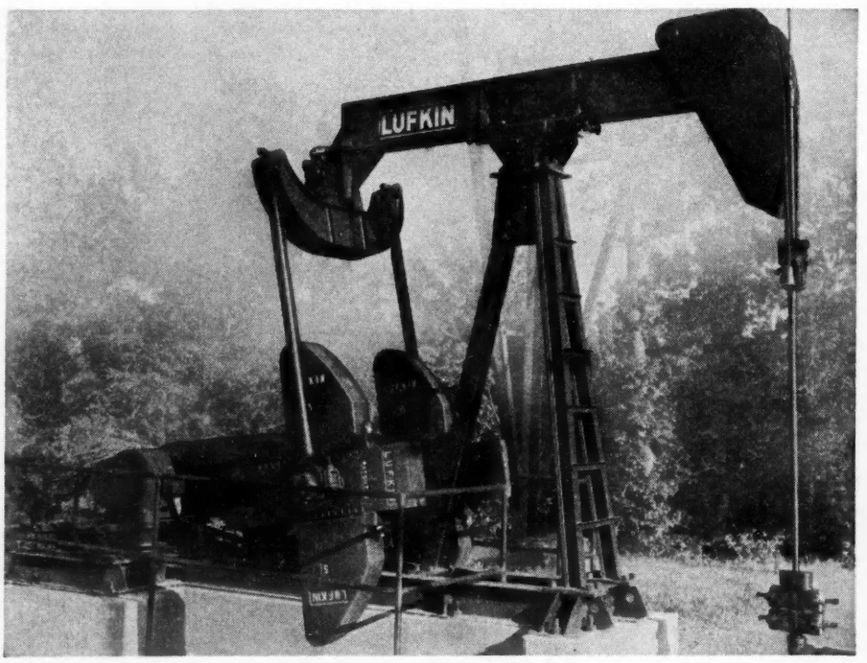
Booth 12

EXHIBIT: Complete line of Rectorheads. Display showing various uses of Rectorseal and Rectorkote.

NEW PRODUCTS:

Type RH Slip-Type Casing Head—This casing head features a patented sealing and hold-down means, which, in conjunction with a steel hanger, provides a positive, rigid and hermetic seal of pressures from annular space and prohibits any upward thrust of casing. The head has a full opening through the body, with no bevelled seats to be jammed or damaged. Blowout preventers can be attached directly to flange of the casing head, no spool being necessary. Casing is suspended on slips which do not require a slip bowl between slips and body of head. An auxiliary hydraulic packing is provided, in addition to the regular A. P. I. ring groove with seal ring, for those operators who prefer to set blowout preventer or valve on this type of packing. The head is available in 6000-pound test models.

REPRESENTATIVES: L. D. Hilton; W. P. Knight; C. L. Cron; Paul E. Baimbridge; E. W. Brockman; M. L. Jackson; and L. L. Rector.



Lufkin TC-3-18A Unit

Lufkin Model TC-55-7A Unit

Hunt Tool Company

HOUSTON, TEXAS

Booths 628, 630, 632

EXHIBIT: Line valves. Blow-off valves. Cut-off valves. Low pressure gas burners. Welded-in blade bit. Wire line core barrel. Mud screen. Low water alarm. Renewable fusible plugs. Gauge cock.

NEW PRODUCTS:

Line Valves, Blow-Off Valves, Cut-Off Valves—This new series of valves features a reversible valve and seat of stainless steel. Valve and seat can be reversed or renewed without removing valve from line, and the valves can be repacked under pressure. These line valves, which are manufactured according to the A. S. M. E. code, are compact, reducing space requirements

In Open Hole or Completed Well
SPERRY-SUN SURVEYING Instruments
Double-Check

Self-Checking

SURWEL
GYROSCOPIC MULTISHOT INSTRUMENT

Most accurate and reliable Multishot Well Surveying Instrument. **Automatically operated,** eliminating human errors. **Makes two surveys** at greatest speed—one going into and one coming out of the hole—**double-checking inclination and direction.**

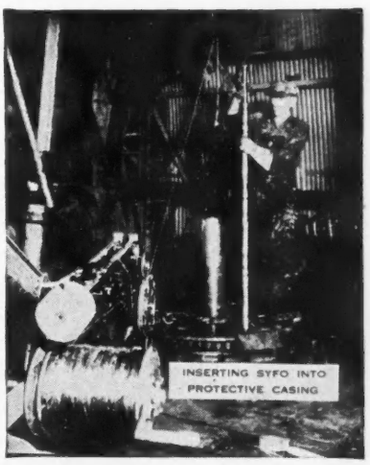
Saves rig time. Wells of 10,000 Ft. depth can be double surveyed in two and a half hours on the wire line, and in about five hours on the drill pipe.

SURWEL service is given by our experienced service engineers. Write for Price List No. 26.

Patented and applications pending.

Self-Checking

SYFO
INCLINOMETER



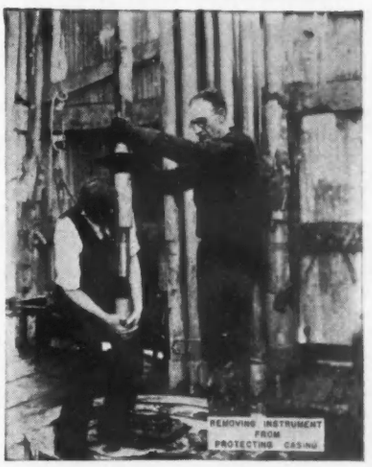
Records speedily and accurately on paper, directly readable, and suitable for filing, the inclination of a bore hole. Is dropped as a "Go-Devil" inside the drill pipe in deeper wells. Requires about twelve minutes to reach 11,000 Ft. depth, and two more minutes to make the record. The least expensive, simplest to operate, and most reliable inclinometer.

Annual rental costs considerably less than it costs to operate an acid bottle.

Patented.

Self-Checking

H-K
SINGLE SHOT MAGNETIC INSTRUMENT



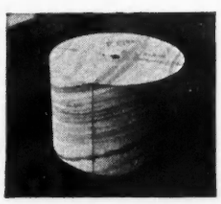
The only Single Shot using a Floating Compass and a triangularly Suspended Crosshair—both capable of withstanding the severe treatment when being lowered into the open hole or "Go-Deviled" through the drill pipe and landing outside the bit in place of a removable core barrel.

Has record of being used over five months without repairs or replacement on several wells of over 7,000 Ft. depth.

Reasonable in operating cost — rented on a daily basis.

Patented and applications pending.

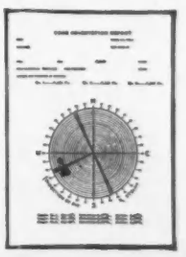
Self-Checking POLAR CORE ORIENTATION *Service*



Orientation of cores is made **without loss of rig time.** Residual polarity is automatically recorded with the greatest sensitivity and accuracy, in our laboratory, to which core samples are shipped.

Old cores as well as cores from distant foreign countries have been successfully oriented. Write for Price List No. 28.

Patented and applications pending.



SPERRY-SUN WELL SURVEYING COMPANY
1608 Walnut Street, Philadelphia, Pa.

Tulsa, Oklahoma, 425 Petroleum Bldg. · Houston, Texas, 3118 Blodgett Ave. · Long Beach, Calif., 549 E. Bixby Road (3800 Block—Atlantic Ave.) · Bakersfield, Calif., c/o Elks Club, 17th and I Streets · Lafayette, La., Bonnet Building, Cor. Lafayette & W. Vermillion Sts. · Corpus Christi, Texas, 332 N. Morningside Drive · Santa Barbara, Calif., 1409 E. Valley Road

to a minimum. The design eliminates unnecessary connections.

Hunt Low Water Alarm—This alarm, which is a safety device to warn a fireman when the water level in the boiler is too low, is designed with an opening directly through the body and whistle valve steam, from boiler to atmosphere. A metallic fuse plug acts as a whistle valve. When the water level becomes lower than the opening to the alarm, steam replaces the water, melting the fuse plug and allowing whistle to blow until the reloading valve is closed.

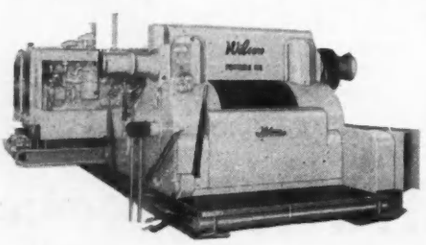
Wilson Manufacturing Company

WICHITA FALLS, TEXAS
Booth 1045

EXHIBIT: Wilson Giant Model rotary rig. Mud pump. Mogul Model drilling rig, equipped with D-13000 Caterpillar engines. Super Model winch with friction clutch and equipped with a K-428 Buda engine.

NEW PRODUCTS:

Wilson Giant Model Rotary Rig—Features of this streamlined rotary rig are new water-cooled friction clutches, available on both low speed and high speed drum drive; air-controlled drum clutches, or hand lever controlled, as preferred; utility unit drive from draw works motor (with this arrangement, the 5-kilowatt generator, the air compressor and the water pump on the utility unit can be driven from the main engines when used for drilling, and when pulling pipe, the auxiliary engine on the unit can be used to drive these units instead); water-cooled brakes, full enclosed, circulating type; friction clutch on the rotary table drive which helps to eliminate shocks, jars, and permits instant engagement; friction clutch on the V-belt pully drive; new



Wilson Giant Model Rotary Rig

patented rubber cushioned engine clutches combine clutch, self-alignment coupling. The rig is equipped throughout with Wilson internal expanding shoe type friction clutches.

Mud Pump—Wilson claim a new departure in pump design with this unit.

REPRESENTATIVES: John H. Wilson, Bert Ligon and Van Ligon.

Yarnall-Waring Company

PHILADELPHIA, PENNSYLVANIA
Booths 518, 520, 619, 621

EXHIBIT: Yarway Impulse steam trap.

REPRESENTATIVE: M. N. Dannenbaum, Houston distributor.

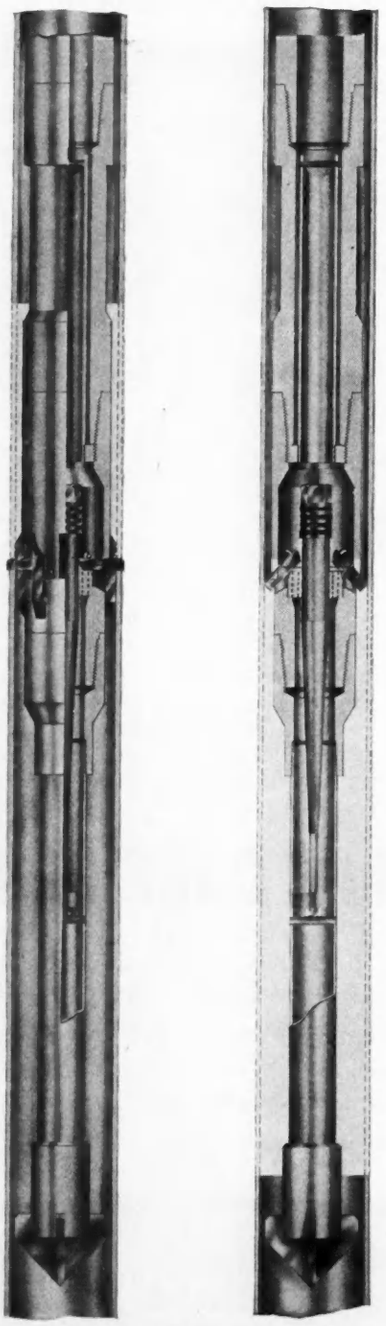
A-1 Bit Company

HOUSTON, TEXAS

Universal Core Barrel Company

HOUSTON, TEXAS
Booths 210, 212

EXHIBIT: Barrett-Robishaw milling tool. Barrett-Robishaw whipstock. Universal wire line core barrel. Universal wire line sheave. Universal rock core heads. Universal circulating swivel. A-1 heat-treated blade bits. A-1 heat-treated blade core bits.



Barrett-Robishaw Expansion Mill with Knives Closed at Right and in Cutting Position at Left.

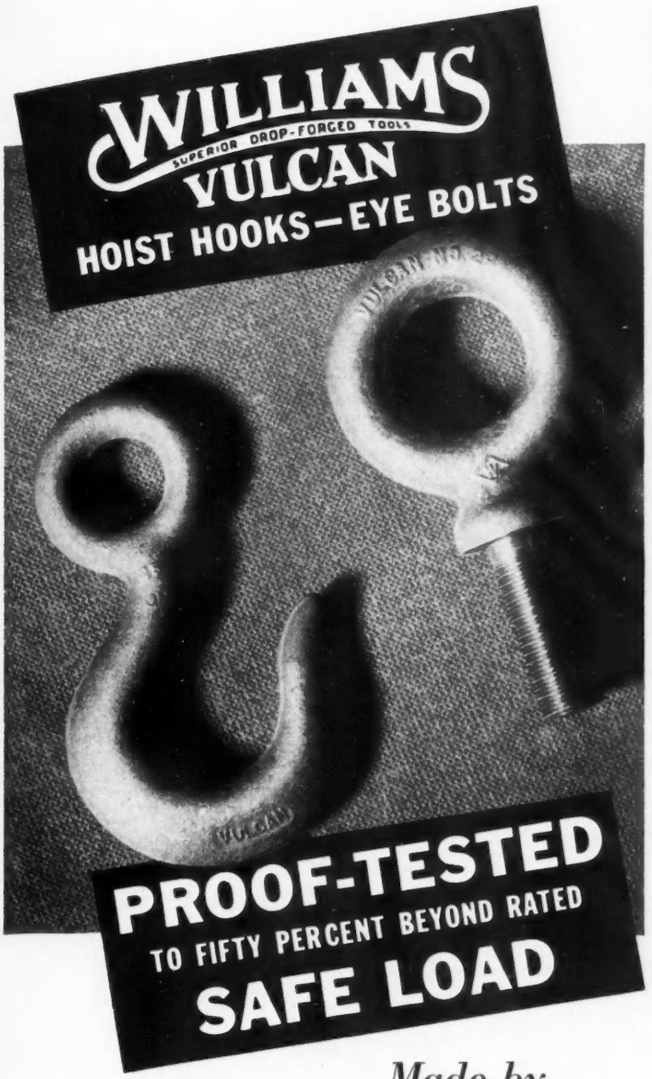
NEW PRODUCTS:

Barrett-Robishaw Expanding Mill—For the first time the oil industry is offered a cutting or milling tool which cuts out not only a side window in the casing but the entire casing string for any desired length, thus eliminating problems of tools hanging in the window, either going in or coming out of the hole or of a window collapsing. It expands from 5 to 8 special hard metal cutting knives that are in the same horizontal plane against the side of the casing at the desired level. This is accomplished by hydraulic pressure from the pump, which is exerted against a piston that has a long tapered plunger attached. By rotary method an entire section of casing can be milled out for only desired length. This cutting or milling tool cuts out not only a side window in the casing but the entire casing string for any length desired, thus eliminating the problem of window collapses or hanging of tools in the window. When the first set of knives become dull, they are closed by pulling up the drill pipe until they touch the upper edge of the milled casing. When the dulled knives are closed, the tapered plunger is automatically released and expands another set of sharp knives that are located beneath the first set. Any number of sets of knives can be used.

Barrett-Robishaw Whipstock

Barrett - Robishaw Whipstock — The dog on this whipstock is pushed out and in contact with the casing by a spring as the whipstock is lowered into the hole. As the dog reaches the milled section of pipe it is expanded into the open hole and hangs on top of the pipe. This actuates the wedge against the casing, and locks the whipstock in such a position that its top is thrown off center and against the formation in the open hole. It is impossible for bits, survey instruments and other tools to hang in the window with this whipstock and it assures a perfect clean window.

REPRESENTATIVES: S. Robishaw; George J. Barrett; C. L. Clausel; E. J. Robishaw; and C. B. McDonald.



Made by

the makers of **"VULCAN"** *Tongs*

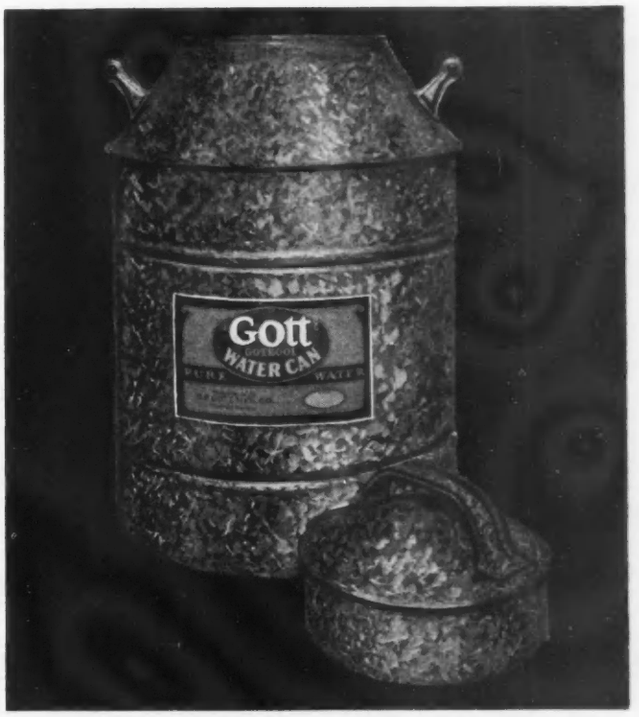
● **All Williams' "VULCAN" Hoist Hooks and Eye Bolts are heat-treated after forging. Every individual Hook and Eye Bolt is then *proof-tested to 50% beyond its rated* "safe working load." For safety sake, insist that you get this extra assurance of strength and dependability.**

"Vulcan" Hoist Hooks are furnished in Shank and Eye patterns — 1/2 to 25 tons capacity. Identify them by the orange tip.

"Vulcan" Eye Bolts are supplied in Plain and Shoulder patterns, shanks blank or threaded, in a complete range of sizes — 1/5 to 16 tons capacity.

See your jobber. Ask for literature.

J. H. WILLIAMS & CO., 211 Lafayette St., NEW YORK



GOTKOOL WATER CANS
Come in 1½, 2, 3, 5 and 10 gallon sizes

GOTKOOL WATER CANS AND COOLERS

Known throughout the Oil Industry, GOTKOOL Water Cans & Coolers are the practical way to keep drinking water cool for long periods, protected from impurities and always handy to the job. Snug fitting, easily removable tops. Extra large top on Water Cooler, also equipped with handy non-leaking faucet. Your Supply Store can supply you today.

H. P. GOTT MFG. CO., Winfield, Kansas

GOTKOOL WATER COOLERS
Come in 3, 5, 8, 10 and 20 gallon sizes

See Page 781 Composite Catalog

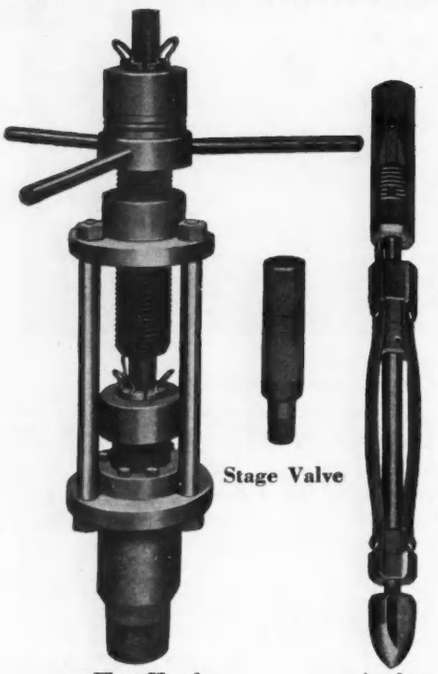
Acme Gas Lift Company

HOUSTON, TEXAS
Booths 244, 246, 248, 345, 347, 349

EXHIBIT: Acme gas lift.

NEW PRODUCTS:

Acme Gas Lift—This gas lift is designed to produce oil where the pressure has dropped to a point where the desired amount of fluid cannot be produced without artificial lifting. Some



Acme Gas Lift Equipment

of the features claimed for the new lift are: Positive flow level selection from Christmas tree; no continually moving parts in well; no back pressure on producing formation; low gas/oil ratio; low in-put operating pressures; intermittent flow control for low bottom-hole pressures or low allowables; and it is not necessary to dismantle Christmas tree or pull tubing.

REPRESENTATIVES: W. L. Church, president; F. D. Reed, sales manager and engineer; and Allison Peters, salesman.

Texas Iron Works

HOUSTON, TEXAS
Booths 244, 246, 248, 345, 347, 349

EXHIBIT: T-I-W bits. Packers and setting tools. Heaving shale drilling assemblies. Safety joints. Slips, tubing slips and spiders. Compounding valves. Back pressure valves. Kelly joint safety valves. Lubricated grief stem safety valves. Casing and tubing heads.

NEW PRODUCTS:

T-I-W Lubricated Grief Stem Safety Valve—This safety valve, designed so that circulation is not restricted in any way, has a straight core and sealing on both upper and down-stream sides of body, eliminating the possibility of sand working between plug and body and causing freezing. It is a lubricated valve, a feature which assures operation in an emergency. This valve, manufactured from alloy steel, carefully heat treated and machined, prevents blow-outs through the drill stem which results in cutting up of expensive pieces of equipment, prevents fires, and reduces danger to lives of crew. It is

T-I-W Lubricated Grief Stem Safety Valve

streamlined so that catline will not hang upon valve stem, a safety feature which protects crew and equipment.

REPRESENTATIVES: L. M. Pearce, vice president and general manager; W. L. Church, chief engineer; Edwin Goodwin, sales manager; S. P. Vinnedge, salesman; H. J. Byers, Louisiana representative; and A. E. Eilers, Louisiana representative.

Continental Motors Corporation

DETROIT, MICHIGAN
Booth 1017-A

EXHIBIT: Engines. Power units. Generating units. Tiny Tim portable generating plant for light duties.

REPRESENTATIVE: Fred T. Gould, manager of Continental Sales and Service Company, Dallas; B. F. Tobin, Jr., vice president in charge of sales, Continental Motors Corporation; and Joseph Gaia, sales representative.

Victaulic Company of America

NEW YORK, NEW YORK
Booths 166, 266

EXHIBIT: Malleable iron and forged steel Victaulic pipe couplings, accompanied by working and pressure models.

Harrisburg Engineering Company

HOUSTON, TEXAS

Locomotive Finished Material Company

ATCHISON, KANSAS

Emsco Asbestos Company

DOWNEY, CALIFORNIA
Booths 1132, 1134, 1247, 1249

EXHIBIT: Harrisburg forged steel regular and "Diamond Special Alloy" slush pump liners. Forged steel bull plugs. Companion flanges. Pipe couplings. Emsco rotary brake lining sets, and other types of brake lining. "Universal" power slush pump, operated by small electric motor.

REPRESENTATIVES: H. B. Liggett, H. M. Reeser, and O. C. Thomas, of Harrisburg Steel Corporation.

A. C. Stevens, and George deBeaumont, of Emsco Asbestos Company.

H. E. Muchnic, and A. H. Moorehead, of The Locomotive Finished Material Company.

Bull-Stewart Equipment Company

DALLAS, TEXAS

Eaton Manufacturing Company

CLEVELAND, OHIO

Braden Winch Company

TULSA, OKLAHOMA

Pyrene Manufacturing Company

NEWARK, NEW JERSEY

Luber-Finer Corporation

LOS ANGELES, CALIFORNIA

Hercules Steel Products Company

GALION, OHIO

McKissick Products Corporation

TULSA, OKLAHOMA

Hanlon-Waters Company

TULSA, OKLAHOMA

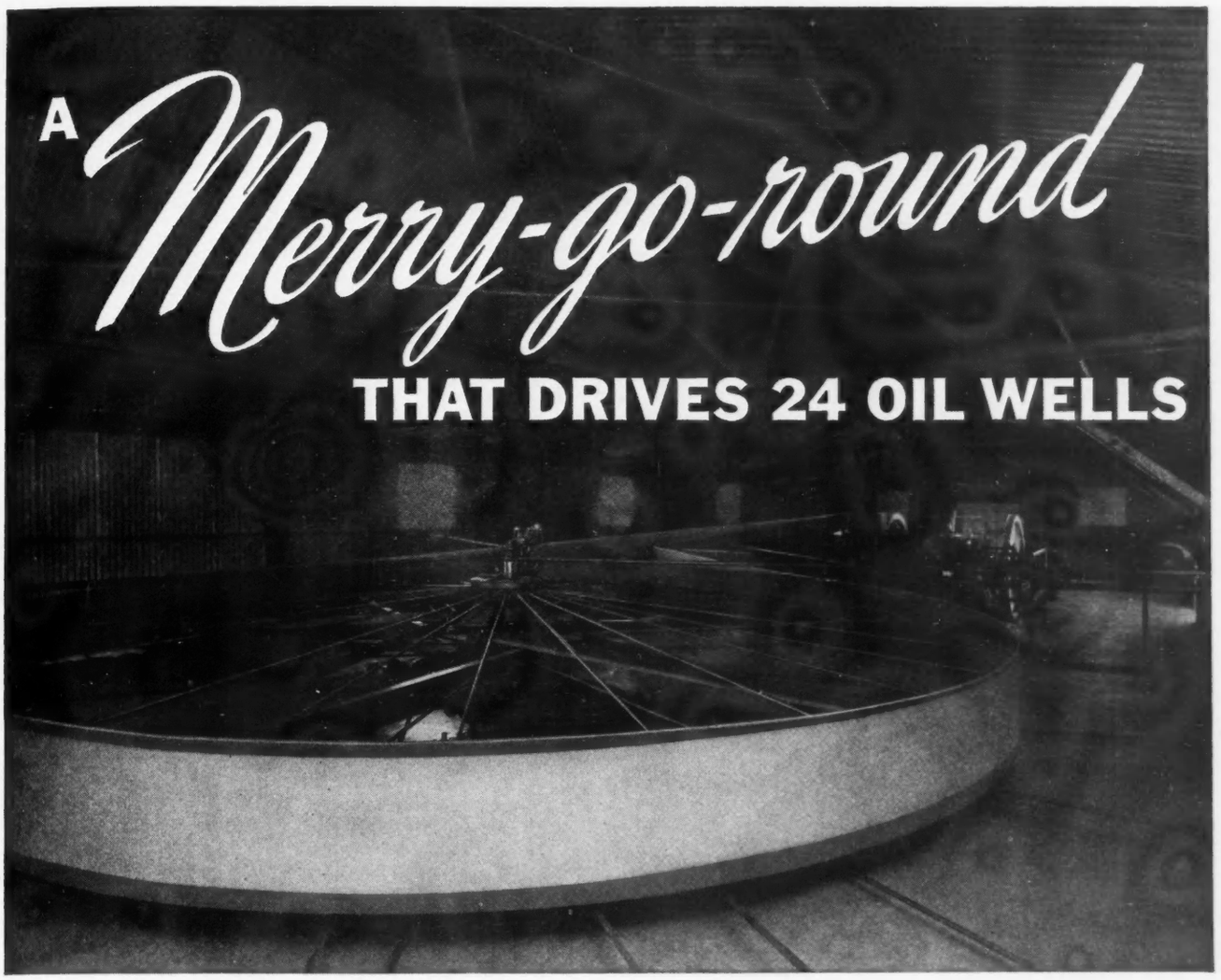
Whitney Chain and Manufacturing Company

HARTFORD, CONNECTICUTT

Spencer Sales Corporation

NEW YORK, NEW YORK
Booth 1012-C

EXHIBIT: Industrial power units built by Bull-Stewart Equipment Company. Two-speed axles for trucks manufac-



U. S. ROYAL CORD
ENDLESS TRANSMISSION BELTS

Many of the toughest transmission problems in the oil fields have been licked by U. S. Royal Cord Endless Belts.

Typical of U. S. Tailored-to-fit jobs is the one illustrated above—a Royal Cord Endless Belt, 16" x 7-ply, 170' in length. On the job more than three years pumping 24 oil wells, and shows practically no stretch.

No matter what the job, heavy or light drive, there are U. S. Rubber Transmission Belts to meet every situation. Get in touch with your nearest U. S. Rubber representative and he will show you how to fit *your job* with the *right* belt.

SERVICE BEYOND PRICE AND SPECIFICATIONS

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United States Rubber Company

1790 BROADWAY, NEW YORK

tured by Eaton Manufacturing Company, Cleveland, Ohio. Truck winches manufactured by Braden Winch Company, Tulsa, Oklahoma. Fire extinguishers manufactured by Pyrene Manufacturing Company, Newark, N. J. Oil cleaners for motors, manufactured by Luber-Finer Corporation, Los Angeles, Calif. Split shaft and transmission power takeoffs manufactured by Hercules Steel Products Company, Galion, Ohio. Snatch blocks, manufactured by McKissick Products Corporation, Tulsa. Load binders, manufactured by Hanlon-Waters Company, Tulsa. Roller chain and sprockets, manufactured by Whitney Chain & Manufacturing Company, Hartford, Conn. Wire rope, manufactured by Wickwire Spencer Sales Corporation, New York City.

NEW PRODUCTS:

V-8-60 Industrial Power Unit—This unit is one of the newest additions to the line of industrial power units assembled from Ford V-8 motors. The unit is built with a stup shaft and is especially adaptable for light duty work. The Model 80 unit can be had with the 60-motor, 85-motor, 95-motor, or the Lincoln Zephyr motor.

Eaton Two-Speed Axle—This axle, introduced for this year's models of trucks, is shown in four different sizes. According to the manufacturer, use of this axle means more miles per dollar, and it provides power to move extra heavy loads with speed and economy. Eaton axles are available in various sizes to fit any need.

Braden Front End Winch—Winches are displayed ranging from the smallest, lightest type to the heaviest type truck winch, which includes some models with 100,000 pounds single line pull.

Hercules Split Shaft Power Takeoffs—These power takeoffs provide the operator with all different speeds of his truck transmission.

REPRESENTATIVES: From Bull-Stewart Equipment Company—C. H. Graham, vice president and general manager, Dallas; Victor (Vic) Reed, Houston branch manager; Jack Speer, Shreveport branch manager; Henry Traylor, San Antonio office; Ramon Llano, Mexico City branch manager; Harry L. Kline; R. B. Barnes, Odell Luton and Jim Hunt, Dallas branch.

From Eaton Manufacturing Company—Reed Ruggles.

From Braden Winch Company—Tom Schuetz.

From Hercules Steel Products Company—H. L. Ekin and C. D. LeMon.

Bull-Stewart Model 80 Power Unit

Beaver Pipe Tools, Inc.

WARREN, OHIO

Booth 754

EXHIBIT: Beaver pipe cutting and threading tools, and machines. Beaver alloy tool-steel reamers.

NEW PRODUCTS:

Beaver Model B Portable Pipe and Bolt Machine—This machine cuts and threads pipe up to 12 inches with geared tool; cuts off bolts ⅜ to 1 inch; and threads bolts ¼ to 2 inches. Its features include simplified gravity feed oiling system; right hand operation; all controls in front; rack-and-pinion feed; helical all-gear drive; wheel or knife cut-off; quick-opening, adjustable dieheads; full range reamer; automatic chuck wrench ejector; universal motor; reversible controller-type switch, standard geared chuck; thread length indicator; and steel-iron housings.

Beaver Model C Threading Machine—This machine, for bench or stand use, threads 2-inch pipe with solid full-width dies—up to 8-inch pipe with geared tools and drive shaft. Gears are fully enclosed and run in oil. According to the manufacturer, there is ample reserve power to allow for dull dies or low line voltage, and there is no strain on gears when tightening standard three-jaw universal chuck. Motor is Universal reversible type.

No. 48-R Beaver Geared Pipe Threader—According to the manufacturer, this machine incorporates the following advantages: extra wide die, with throat which centers and holds tool in position when placed on pipe; gears fully enclosed and packed in graphite greases; straddle-mounted driving pinion; dies held in position by enclosed spring-backed ball; and shoulder on tapered post makes quick and accurate die setting possible. It is semi-adjustable for cutting oversize or undersize, and weighs 58 pounds.

Beaver Alloy Tool-Steel Reamer—This reamer, with handles fashioned to fit the hand, has drop forged cones. There are no inserted blades to work loose.

REPRESENTATIVES: C. W. Smith, oil field district manager, and Avery Phillis, Chicago district manager.

McEvoy Company

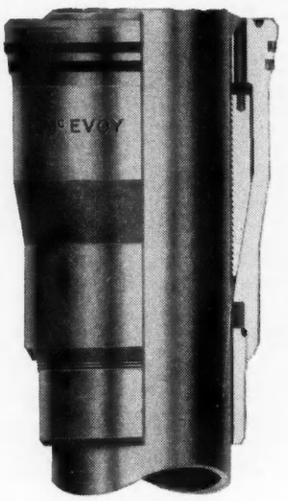
HOUSTON, TEXAS

Booths 555, 557

EXHIBIT: "Knurled" wire wrapped screen. Wireless (button) screen. Christmas trees. Liner packers. Set shoes. Combined casing and tubing head. Pumping heads. Blowout preventers. Flange protectors. Valve removal tool. Christmas tree fittings. Adjustable and positive chokes.

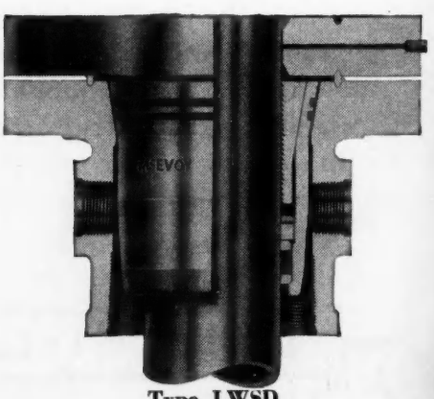
NEW PRODUCTS:

Casing Hanger—The McEvoy Type LWSB casing hanger is a combination slip suspension and welding type of hanger. The slips support the casing while the welding seals between the strings of casing. An auxiliary stuffing box seals between the strings of casing until the casing is welded to the hanger and will seal in case of an imperfect weld. This hanger fits any of the McEvoy combined casing and tubing heads. It has been used on many 10,000 foot or deeper wells. This hanger can be landed through full opening blowout preventers. Ring gasket on the hanger seals with the section above.



Type LWSB Casing Hanger

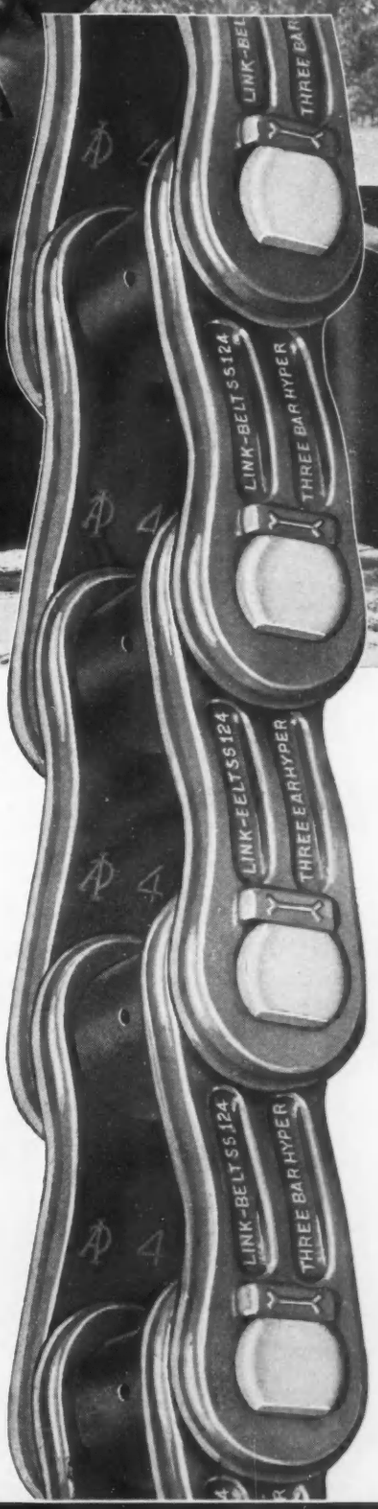
Casing Hanger—The McEvoy Type LWSD casing hanger is a modification of the Type LWSB in that the slips



Type LWSD Casing Hanger

"124,600 Feet of Hole—Still shows no wear"

THAT'S HYPER CHAIN FOR YOU!



● From Jimmie Carlton, driller for Carlton Drilling Co., comes this interesting case history of Link-Belt Hyper Chain performance . . . just another of the many cases where Hyper continues to be the wise oil country chain investment. This rig, as pictured, is just finishing its thirteenth 6,850′ hole at Fairbanks, Texas. Before Fairbanks it drilled two 6,800′ wells at Hitchcock, following completion of four 5,500-footers at Magnet—a fast, continuous schedule of drilling. This total footage . . . 124,650 feet of hole . . . was drilled with the same SS-124 (3-Bar) Hyper Chain on all drives except the rotary, where SS-40 Hyper was used. The driller, himself, best describes the present condition of the chain when he says: "And I'm not about to replace any of it...that chain's not even showing any wear yet."

Link-Belt Company, Indianapolis, Houston, Dallas, Los Angeles, Philadelphia, Chicago, New York. Distributors in all fields. 7740

●

See our EXHIBIT at the OILWORLD EXPOSITION, Houston, Spaces 416-18-20, April 24-28

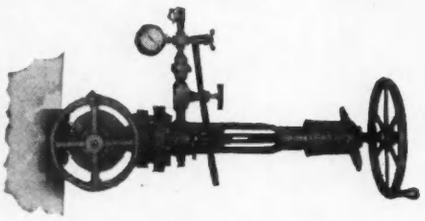
1939
NEW YORK WORLD'S FAIR EXHIBITOR METALS BLDG.

LINK-BELT CHAINS

THE CHOICE OF EXPERIENCED DRILLERS

may be installed in the hanger at will, the packing may be tightened in place from the top side of the hanger. The casing is welded to a special welding flange. A connection is provided in the welding flange for the purpose of testing the pipe weld. This hanger is particularly designed for use on wells below 10,000 feet deep. Either small or standard ring gasket can be used to connect upper well head section.

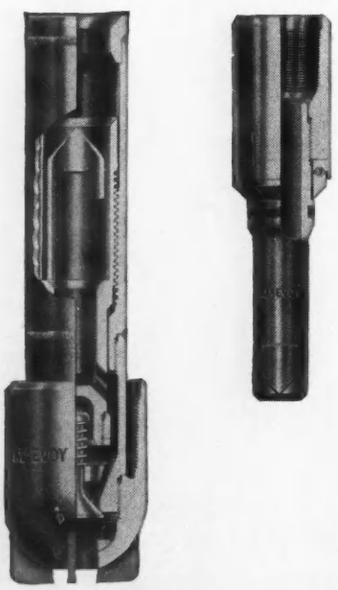
Valve Removal Tool—The McEvoy Valve Removal Tool was designed for use by the field operator to remove or install valves under full pressure control. Means are provided to automatically align thread in the inside of the flange with the thread on the plug. The difference of pitch between the threads



McEvoy Valve Removal Tool

of the stem of the tool and the plug is automatically compensated. Horizontal adjustment of the stem is provided for connection to the square of the plug without rotating the stem. Pressure connection is provided for testing. Flanges do not have to be in exact alignment.

Set Shoe—The New McEvoy Type TSJ positive seal set shoe provides connection for setting liner, with the tubing through a jay slot mechanism. The tubing is supported on ball bearings while connecting and disconnecting the



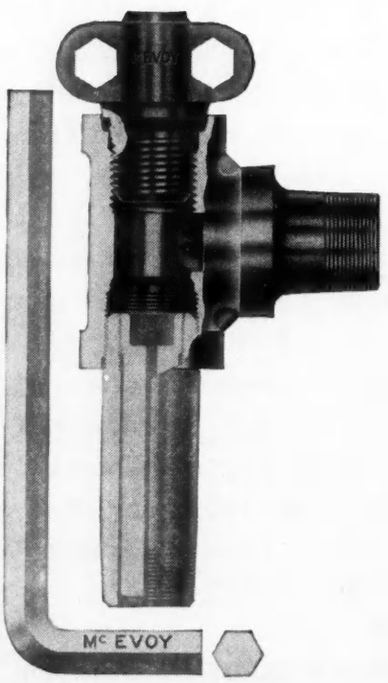
Type TSJ Positive Seal Set Shoe

tubing. The maximum diameter of the setting tool pin is the same as that of the tubing collar. The positive seal valve element closes after about 8 turns of the tubing. The positive connection with the tubing pin is released after about 4 turns. The pumps are used to test for closure of the valve and release of the tubing.

Type AGSP Tubing Hanger

Tubing Hanger—The McEvoy Type AGSP tubing hanger is used where a tubing packer is to be set in the well. It permits full and proper setting of the packer without the necessity of close spacing of the tubing at the well head. This hanger can be set through the blowout preventers. The lower stuffing box provides a seal while the tubing is being moved to set the packer slips installed at desired position, blowout preventers removed, and auxiliary or repackable stuffing box connected. This hanger has been used very successfully on many wells.

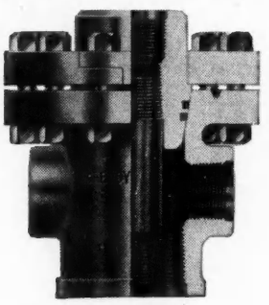
Choke Fitting—The McEvoy Easy Change choke fitting is made with a special bull plug connection which can be removed easily with the same wrench used to change the choke bean. Thus, the wrench left at the well is the only wrench needed to remove the bull plug and change the choke bean. This



McEvoy Easy Change Choke

eliminates the necessity of carrying special wrenches to each well to take the bull plug out. This fitting can be furnished in either the tee or cross type with male or female threads. The spcial bull plug can be tapped for relief valve if desired.

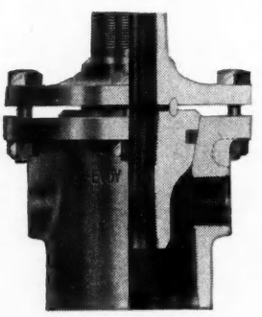
Tubing Head—The McEvoy Type LGH Tubing Head provides an economical head with API type of flanges. The hanger can be run and landed through blowout preventers. The hanger is held in place with a split hold



Type LGH Tubing Head

down flange. The Christmas Tree or pumping connections are connected directly to the top of the tubing hanger. This head is used extensively in low pressure areas for flowing, gas lift, and pumping wells.

Pumping Head—The McEvoy Type LH 1000-pound test semi-steel pumping head rounds off the McEvoy line of pumping heads in that it provides a very economical head which has thread suspension from a tubing hanger. A bonnet flange is provided for connec-



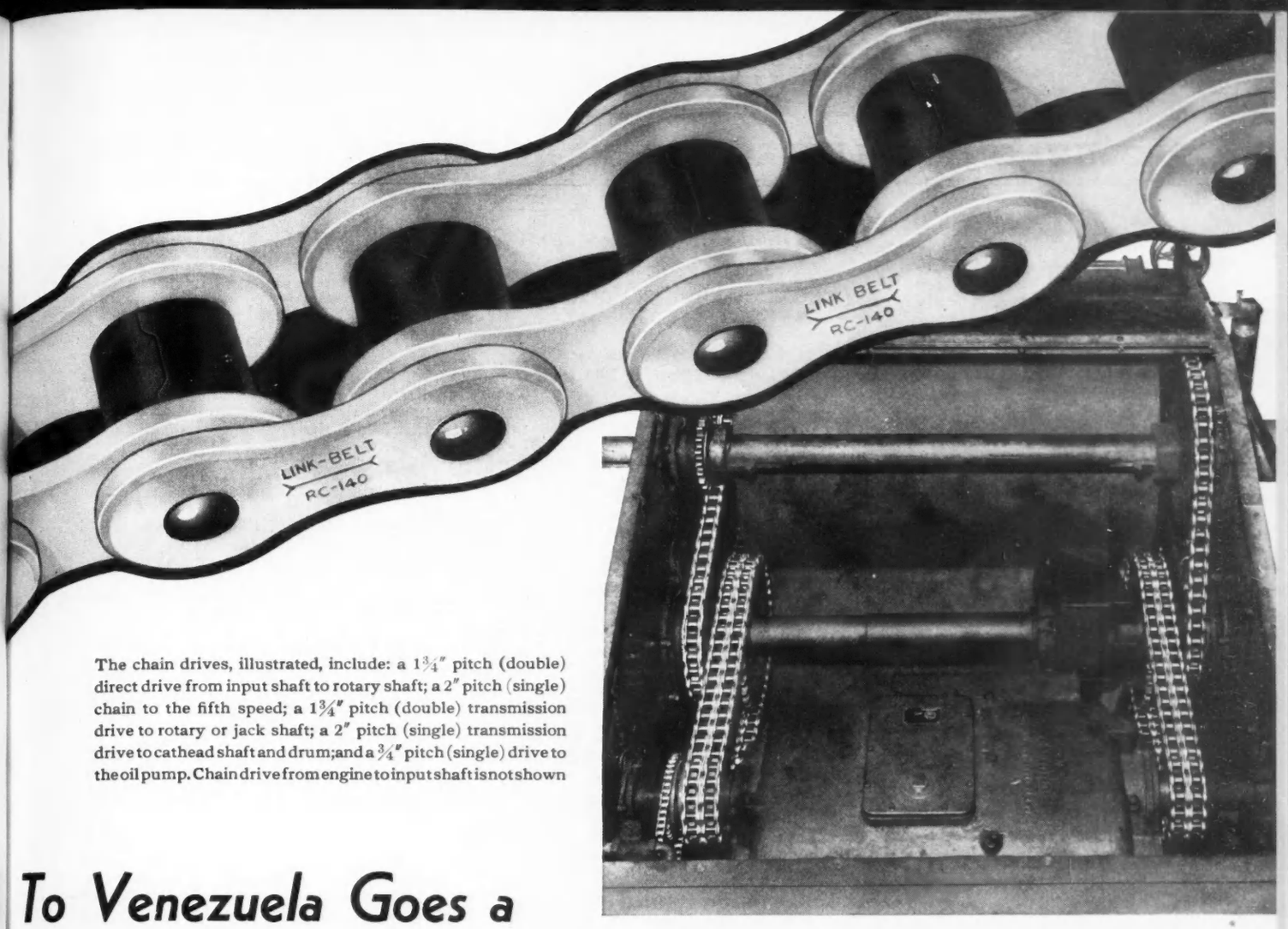
Type LH Pumping Head

tion to the Christmas tree or pumping fittings. This permits the upper section being handled as a unit without rotation being required for connection. The tubing hanger has a tubing thread in the top so that a joint or pup joint of tubing can be used to handle the tubing. This head is low in cost.

Flange Protector—McEvoy has introduced recently a flange protector for installation on the flanges of Christmas trees to protect the space between the flanges from corrosion caused by salt

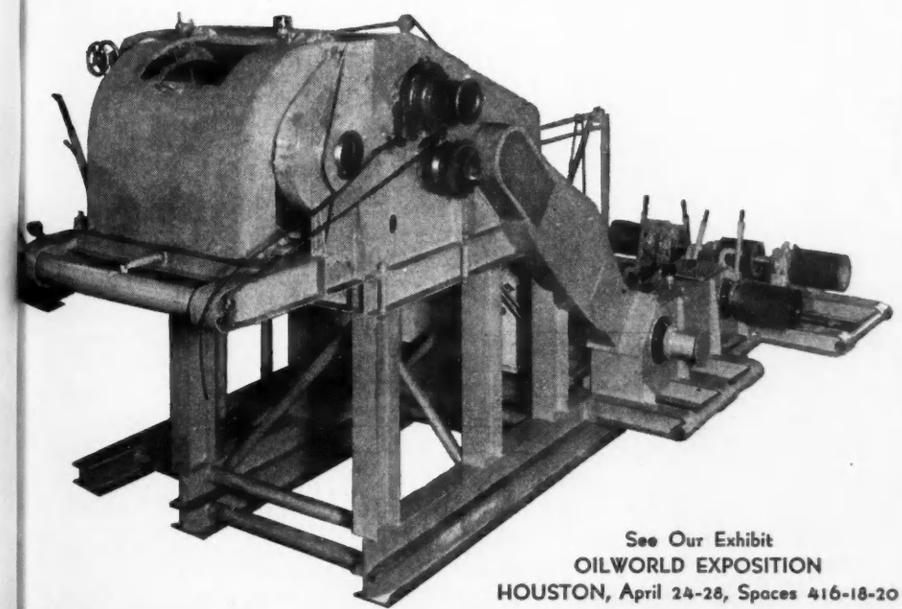
McEvoy Flange Protector

water spray, etc. This is particularly important because of the difficulty of painting these inner surfaces. This



The chain drives, illustrated, include: a 1¾" pitch (double) direct drive from input shaft to rotary shaft; a 2" pitch (single) chain to the fifth speed; a 1¾" pitch (double) transmission drive to rotary or jack shaft; a 2" pitch (single) transmission drive to cathead shaft and drum; and a ¾" pitch (single) drive to the oil pump. Chain drive from engine to input shaft is not shown

To Venezuela Goes a **PORTABLE CT-5 RIG** *Equipped with* **LINK-BELT SILVERLINK Chain**



● Portable Rig Company's Model CT-5 Mechanical Rig, pictured at left has recently arrived in Venezuela...the answer to a drilling program involving a series of important locations calling for continuous, speedy development. It is designed and built for 5,000 ft. drilling, and an outstanding advantage it offers is speed. The speed selection of this rig gives the operator a single line travel range from 270 feet per minute in low to 2,000 feet per minute in high-high. Such speed calls for the best in chain, and this rig is equipped 100% with Link-Belt Silverlink finished steel roller chain and sprockets. Dependable performance in extremely hard service in numerous oil countries has definitely established this preference for Link-Belt Silverlink in the roller chain field.

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HOUSTON, April 24-28, Spaces 416-18-20

LINK-BELT COMPANY

Indianapolis Dallas Houston Los Angeles
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LINK-BELT *Silverlink* ROLLER CHAINS

clamp is made of a strip of brass with a neoprene backing. It is split for installation on flanges in the field, and is provided with Alemite connections so that grease can be forced between the flanges for additional protection. These clamps are particularly recommended for all of the flanges on the well head and master valves.

REPRESENTATIVES: J. H. McEvoy, vice president; George S. Watson, vice president and general manager; A. Henderson, superintendent; J. H. Howard, chief engineer; Morey Zorgdrager; B. G. Johnson; C. A. Welsh.

Standco Industries

HOUSTON, TEXAS

Booths 1566, 1568, 1568-A

EXHIBIT: Bolt heading machine making headed bolts. Various kinds of stud bolts and nuts. Standco brake blocks.

REPRESENTATIVE: Fred S. Gray, sales manager.

Otis Pressure Control, Inc.

DALLAS, TEXAS

Booths 1314, 1316

EXHIBIT: Otis square Kelly drilling head. Pressure operated union. Snubbing equipment. Removable bottom hole choke. "Side Door" choke. Bottom hole regulator. Removable tubing safety valve. Mixing valve. Tubing, drill stem and casing plugs. Removable drill pipe float valve. Tubing heads and stuffing boxes. Rotating paraffin scraper. Automatic type paraffin scraper.

NEW PRODUCTS:

Otis Rotating Paraffin Scraper—This new type device utilizes the energy of the flowing well for rotating power. Spiral blade of the scraper rotates with the flow, yet doesn't stop the flow and a system of slips prevents blowing out. Dislodged paraffin is carried out with the flow. According to the manufacturer, chief advantages of this scraper are: eliminates danger of well going dead because of shutdown; scrapes paraffin thoroughly and safely; and saves time.

Otis Type G "Side Door" Choke—This choke makes possible the control and removal of gas from an upper formation, and the use of the gas to produce oil from an underlying sand, as well as enabling the driller to clean out and test two separate horizons in the same well and to produce from each formation independently of the other. The choke is run into the well and removed on a steel measuring line. Operator can change orifice controlling rate of entry of lifting gas without pulling the tubing string. Removable check valve can be pulled with regular choke pulling tool. Choke has positive locking mechanism.

REPRESENTATIVES: I. A. Miller, division superintendent and L. M. Wilhoit, sales engineer.

The Brandon Company

ODESSA, TEXAS

Exner-Dodge Packer Co.

COFFEYVILLE, KANSAS

Commission Sales Co.

SHREVEPORT, LOUISIANA

Norris Bros. Inc.

ROBINSON, ILLINOIS

Baird Manufacturing Co.

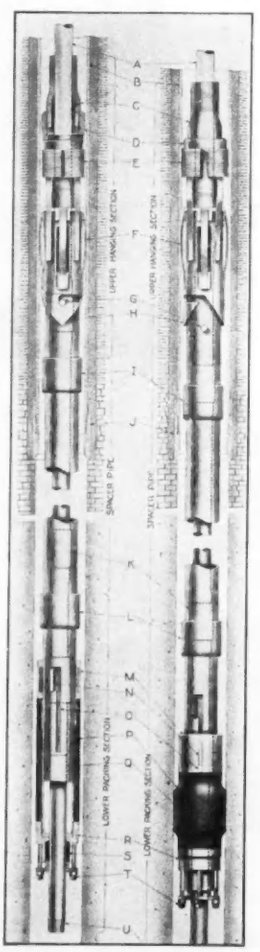
TULSA, OKLAHOMA

Booth 1403

EXHIBIT: Products of The Brandon Company, Exner-Dodge Packer Company, Commission Sales Company, Norris Bros. Inc., and Baird Mfg. Co.

NEW PRODUCTS:

Exner-Dodge Underset Formation Packer—While there are many applications for this packer, which hangs in the casing and sets in the formation, it is especially adapted for use when the exact location of the pack-off point is not known definitely. After setting at the desired point, this packer can be



Exner-Dodge Underset Formation Packer

disengaged at will and reset at any higher or lower level, without removal from the well. This may be done as many times as may be necessary to locate the most effective pack-off point. The packer is equipped with Exner-Dodge high-pressure Neoprene packing element, replaceable in the field.

REPRESENTATIVES: Thomas E. Brandon and wife; W. C. Kruger from The Brandon Company; Tom J. Spies of Commission Sales Company; Lee Carter of Norris Bros., Inc.; L. D. Baird of Baird Manufacturing Company; Frank Denison and Richard Fulkerson of Exner-Dodge Packer Co.

Roller Bearing Company of America

TRENTON, NEW JERSEY

Booths 314, 316, 1556

EXHIBIT: Cyclops needle bearing.

NEW PRODUCTS:

Cyclops Needle Bearing—One-piece outer race construction is the keynote of this needle bearing. Engineers have developed a method of retaining a full complement of rolling elements without the aid of any auxiliary parts, yet permitting ready disassembly in the field if so required. Ends of the rollers are conispherical, forming ball point contact with the race lands while in their path of travel. The bearing is provided with an oil groove and a snap ring channel, which, according to the manufacturer, reduce to a minimum the cost of machining a recess for lubrication and locating of the bearing in the housing. This needle bearing is manufactured from SAE-52100, steel hardened through and ground to precision limits. It is designed in a range that accommodates shaft diameters from one-half inch to eight inches, and is available with and without inner races in two hundred different sizes.

REPRESENTATIVE: George J. Fix, distributor.

Shaffer Tool Works

BREA, CALIFORNIA

Booths 317, 319, 321

EXHIBIT: Shaffer cellar control gate or blowout preventer with self-centering rams. Rotating blowout preventer with stripper rubber to seal around Kelly, drill pipe or tool joint. Kelly cock. Adjustable flow beans. Rod spacer.

NEW PRODUCTS:

10,000-Pound Test Shaffer Control Gate—This 10¾-inch test control valve, according to the manufacturer, has been built to insure maximum safety in drilling high pressure wells and to provide means of closing in wells against blowouts. This preventer is equipped with self-centering rams in order to center small sized drill pipe in the bore of the gate. Due to perfect equalization of pressure around the rams, no separate high pressure closing equipment is necessary to offset well pressures. The rams positively close and hold even against abnormal well pressure and are successful in holding such pressure indefinitely after being closed. Mechanical quick closing device is available for all types of Shaffer control gates.

REPRESENTATIVES: W. D. Shaffer, Carl W. Vogt, John H. Moran, Ben J. Ross, S. R. Setser, C. E. Geddes, T. E. Jackson, and Clay Johnson.

WORLD DEVELOPMENT and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Mexican Situation

Court ruling may hamper Mexican oil export trade . . .
Conferences lead nowhere; negotiations to continue.

Possibility of loss by Mexico of considerable oil export business was seen from a recent action of the United States Circuit Court of Appeals which dissolved a federal court temporary injunction which had enjoined Asiatic Petroleum Corporation and Anglo-Mexican Petroleum Company, units of the Shell group, from interfering with the foreign commerce of Eastern States Petroleum Company.

The latter purchases crude oil from a corporation owned by the Mexican government. Some of the oil comes from wells seized by Mexico last year from Mexican Eagle Oil Company, also a Shell unit, the defendants alleged.

The plaintiff contended that the defendant companies were causing prospective European customers to refuse to enter into new contracts by using threats and coercion.

What Court Maintained

In lifting the injunction the court maintained that the defendants did not seek out any of the customers of Eastern States Petroleum Company, but that one of those customers, under contract to purchase 120,000 tons of oil, sought the advice of the British ministry of mines concerning the possibility of breaking the contract. It held that the ministry advised the customer to consult with the defendants. They, the court held, believing the oil property belong to Mexican Eagle Oil Company, told the customer they might take steps to attach oil shipments from Mexico to England. British courts had sustained similar steps taken against oil seized in other countries.

One Judge Dissented

One judge dissented from the opinion reversing the federal court injunction order. In his dissent he said: "It is clear that the defendants are threatening Eastern States Petroleum Company's customers in a way that is damaging and may be ruinous. They are doing this by challenging its title to the oil, which they declare generally they may attach as their own, if others buy it, and by stating that the expropriation by the government of Mexico will not be recognized by the courts of other countries."

Mexico's outlook continues unpredictable with Mexican authorities looking at the future through rose colored glasses following conferences between President Cardenas and Donald Richberg, representative of the British and American oil companies whose properties, valued at $400,000,000, were expropriated March 18, 1938, and the oil industry outside of Mexico failing to evince any optimism over the outlook.

The situation in Mexico apparently is this: Mexico has a producing, refining and marketing oil business which it is not able to make pay. The companies whose properties were expropriated in March had made those properties pay both them and the government, but they are reluctant to actively enter the business again unless they can operate said business as a business venture rather than as a sort of "Westward, Ho!" proposition for the frenzy of nationalism that has impregnated government officials under the Cardenas regime.

The Mexican dilemma, so far unsolved or unremedied, exists because the government cannot realize that there is any excuse for the existence of business except to glorify the fatherland and because private enterprise, on the other hand, insists that the prime reason for being in business is to make a normal profit on investment, it is said.

Mexico Handicapped

As a matter of fact, Mexico has not been able to conduct the oil business in a manner that would contribute as heavily as the foreign companies to the coffers of the government. Production is less. Refinery runs are lower. Exports are far below what they were before the axe of expropriation fell. Industrial strikes have increased since a year ago instead of decreasing. The generally unsatisfactory economic condition of the nation, generally conceded to have been initiated with or brought on by expropriation of the oil industry, progressively has become worse and worse.

Last week a rather unusual development took place in Mexico. Numerous wrecks on railroads in the country were attributed

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Link-Belt Company, Philadelphia, Houston, Dallas, Los Angeles, Indianapolis, Chicago, New York. Sold by most supply houses. 7744
LINK-BELT Vibrating SCREEN

to brigands in the employ of expropriated oil companies. They were accused in the Mexican press of being alleged to have wrecked the trains to hasten the day when the government would return the oil properties to the companies. However, later in the week indications were that the railroad management, which had given utterance to the accusations, would be given an opportunity to resign.

Reports taken from the Mexican press indicate that the spirit of the regime of Cardenas, which sanctions and endorses wholesale confiscation, is causing the business men of Mexico yet unaffected (Mexicans largely) to begin to question the wisdom of the government in trying to put all business under the control of official Mexico City. One student of the situation feels that as long as the Mexicans evince this quality of being able to think and wonder for themselves there is probably more hope for the industrial life of Mexico tomorrow than today's conditions might indicate.

Blue Goose shuts in first well on Peruvian holdings

Lack of storage facilities and need of a 25-mile pipe line to handle production, has resulted in shutting in Blue Goose Oil Company's first commercial producer in Peru.

Company officials here revealed that while no immediate plans are in the offing for remedying the situation, they intend to drill another well.

Based on present geological information, the Blue Goose Oil Company is under the impression it controls a structure 20 miles long and 8 to 10 miles in width.

Maracaibo to have natural gas distributing system

Advice from Maracaibo, Venezuela, indicates government officials there anticipate completion of a natural-gas distribution system by or before September.

Colon Development Company, Venezuelan Oil Concessions, and Caribbean Petroleum Company, all Shell interests, have undertaken jointly to supply the gas and build the line from the source in settlement of differences with the government that had developed in connection with exploitation of certain petroleum concessions in the state of Zulia, according to Charles C. Gidney, Jr., of Maracaibo.

Dutch deny Mexico's right to seize foreign property

Right of the Mexican government to sieze foreign-owned property will not be recognized by Dutch courts, it was reported to Washington this week in advices from Rotterdam.

Unofficial reports from the Netherlands stated that the district court of Rotterdam on April 6 rendered a decision sustaining attachments levied last month by Mexican Eagle Oil Company (the Dutch Shell interest in Mexico) on approximately 3000 tons of Mexican gasoline and oil originating from properties of the company on the Isthmus of Tehuantepec which were confiscated last year.

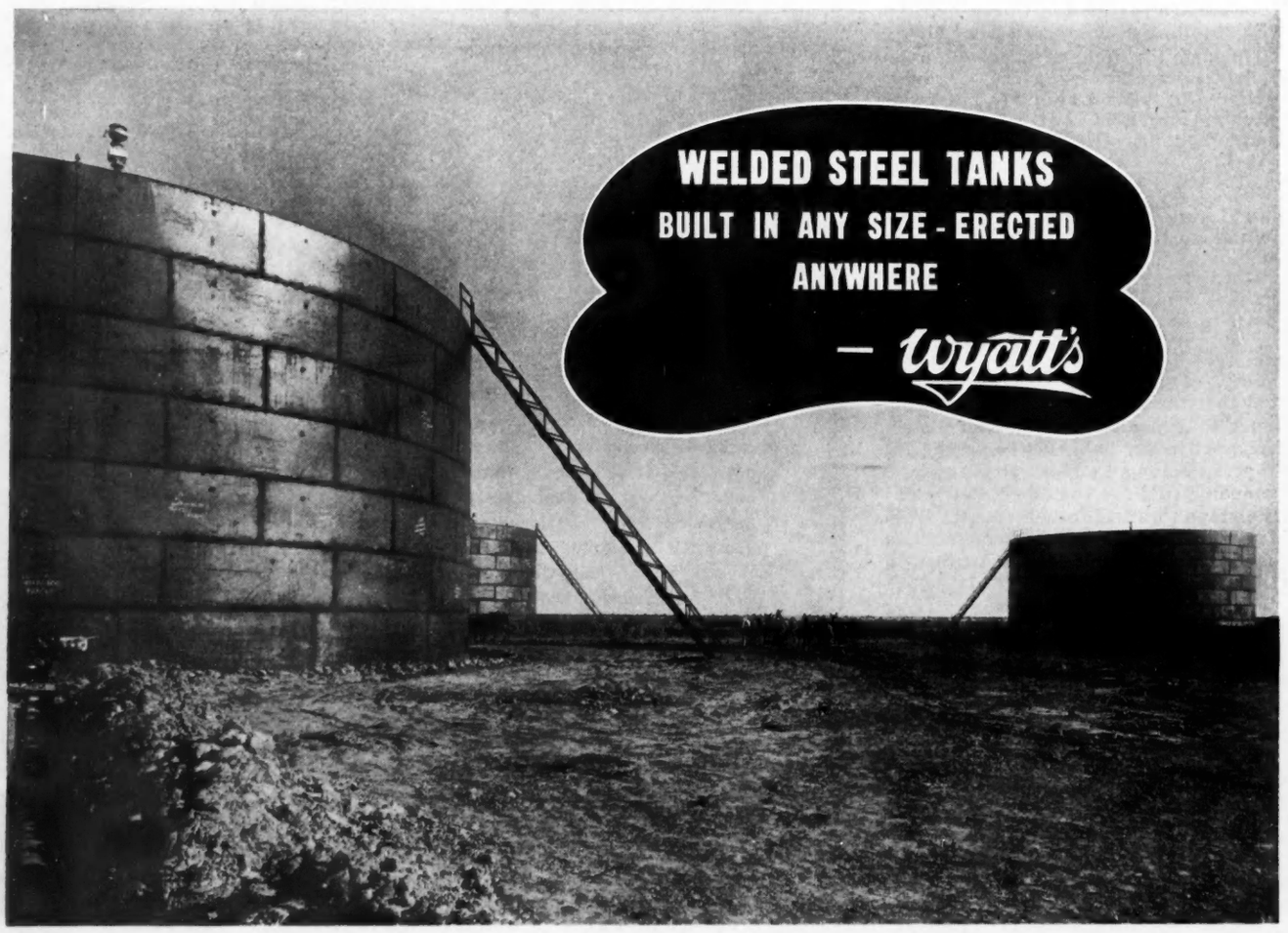
The gas and oil was loaded at Minatitlan, Mexico, on the motor vessel "Jaguar" which broke in two at sea, the after part of the ship subsequently being towed to Rotterdam.

The gas and oil salvaged was dispatched into tankage of the Pakhuismeesteren Company of Rotterdam and was attached by the Mexican Eagle. The court's decision, it was stated, was rendered in denying an injunction to have the attachment lifted and, in effect, upheld the right of the Mexican Eagle company to possession of the gas and oil.

Italy subsidizes A.G.I.P. to explore for reserves

An expenditure of 60,000,000 lire, or approximately $3,156,000, has been authorized by the Italian government as a subsidy to Azienda Generale Italiana Petroli for oil exploration in Italy, the American commercial attache at Rome reported to the department of commerce. It is the third subsidy of its kind and brings to 168,000,000 lire, or approximately $8,836,800, the total granted to the agency.

Authorized by royal decree on January 9, 1939, the expenditure is to be made over five fiscal years, with maximum expenditures by fiscal years as follows: 1938-39, 15,000,000 lire, about $789,000; 1939-40 and 1940-41, each 12,000,000 lire, about $631,200; 1941-42, 11,000,000 lire, about $578,600, and 1942-43 10,000,000 lire, about $526,000.



MEN IN THE INDUSTRY'S NEWS

D. R. KNOWLTON PROMOTED TO PRODUCTION MANAGER FOR PHILLIPS PETROLEUM COMPANY

»

W. J. CRITES IS APPOINTED RESEARCH ENGINEER

»

D. R. KNOWLTON, general production superintendent for Phillips Petroleum Company at Bartlesville, Oklahoma, has been advanced to production manager in charge of all districts.

A native of Iowa, Knowlton spent four years at the University of Colorado between 1914 and 1920, taking two years out for war service in 1917 and 1918. He left Boulder with an A.B. in geology to put in 2½ years at Stanford to earn a petroleum engineering degree in 1923. His first oil industry connection was in the geological department of Empire Oil & Refining Company in Wyoming in 1916. Four years later he was a geologist for Midwest Refining Company in Wyoming. He then spent part of 1920 and 1921 as geologist for Western Oil Fields Corporation in the Mid-Continent. Upon completion of study at Stanford he became petroleum engineer for Marland Oil Company of California, retaining this position until 1926, when he joined Phillips Petroleum Company as petroleum engineer at Borger, Texas. Five years later he was made assistant chief engineer and moved to Bartlesville. In 1933 he became chief engineer, holding this place until 1936, when he became general production superintendent.

Working directly under Knowlton are two recently appointed general production superintendents, each in charge of one of the newly created producing districts of Phillips.

J. S. Montgomery, formerly assistant general superintendent at Bartlesville, is the new general superintendent in charge of the northern region, which includes Indiana, Illinois, Kentucky, Kansas, Oklahoma, and all of Texas except the Gulf Coast.

P. C. Murphy, formerly division superintendent of the Tri-State division, headquartered at Houston, is the new general superintendent of the southern region, which includes the Texas Gulf Coast, Louisiana, Arkansas and Mississippi.

Other changes in Phillips Petroleum Company personnel announced by Frank Phillips, chairman of the board, include the following:

W. J. Crites, chief production engineer at Bartlesville, has been appointed research engineer.

O. L. Carson, assistant chief production engineer at Bartlesville, has been promoted to chief engineer.

C. P. Dimit, vice president in charge of production and a member of the executive committee and of the board, remains in active charge of the production department.

—Blank & Stoller

D. R. KNOWLTON

W. C. BORING, former land man for Gulf Oil Corporation in West Texas, has joined the land department of Seaboard Oil Company of Delware for duty in the Corpus Christi, Texas, district.

JOHN F. SHIPLEY, co-discoverer of two oil pools in Ward County, Texas, died April 11 of a heart attack at Newhampton, Mo., where he had been engaged in lease and royalty trading. Survivors include two sons, John M. and Joe F. Shipley, who participated in the West Texas discoveries.

L. G. CAMERON, geologist, formerly with Deep Rock Oil Company, has joined Midstates Oil Company at Shreveport, Louisiana.

H. L. CRILEY, geologist with Sun Oil Company has returned to Tulsa, after working over the Forest City basin.

S. D. BUTCHER, who opened the branch office in the Houston district for Midstates Oil Corporation in May, 1936, and who has been in charge of the district since that date, has announced his resignation effective May 15. Butcher, a geologist, plans to enter the oil business for himself.

HOWARD BOYD, chief scout for Magnolia Petroleum in Dallas, Texas, has been transferred to the land department and stationed at Wichita, Kansas. He is succeeded by W. P. Duncan, Jr., who has been in New Mexico.

DR. MALVIN G. HOFFMAN, chief geologist for Midco Oil Corporation, Tulsa, Oklahoma, and Mrs. Hoffman, are on a honeymoon cruise in the Caribbean.

FLOYD W. ROBSON, charge of engineering drafting department, Carter Oil Company, resigned from that position April 15 to join with Jeselm Corporation where he will serve as a member of the board of directors. Robson, who has been associated with Carter Oil Company for 21 years, will remain in Tulsa, where the new firm has set up headquarters in the Thompson Building.

BUCK FREEMAN, superintendent of Panhandle Eastern Pipe Line Company, visited in Tulsa last week.

WILLIAM F. HUMPHREY, president of Tide Water Associated Oil Company, New York, headed a party of officials of the company from Tulsa and New York that made an inspection trip through the Gulf Coast. After spending several days in Houston last week the party went to Louisiana to inspect holdings in the Venice field, Plaquemines Parish. This was Humphrey's first inspection trip in the Gulf Coast. Ralph Pringle, Chase National Bank, New York; C. Brown, New York; Verne Henry, treasurer; G. Kinter, engineer; and J. Roth, engineer, all of Tulsa, were others in the party.

R. SEIBEL, secretary-treasurer of Texas Pacific Coal & Oil Company, was elected a vice president at the annual board of directors meeting held April 19 at Fort Worth headquarters. He has been with the company since 1919, starting as an assistant secretary when offices were in New York. The board re-elected all officers, and authorized the payment of the regular quarterly dividend of 10 cents per share, payable June 1.

CLARENCE LOW, member of the production department office staff of Amerada Petroleum Corporation, has been transferred from Fort Worth to Tulsa. C. C. Toman, who was stationed at Fairbanks, Texas, has filled the vacancy at Fort Worth.

R. C. BAKER, president of Baker Oil Tools, Inc., of Los Angeles, and Mrs. Baker were injured in an automobile accident during the past week. The accident occurred between Avenal and Coalinga.

F. R. OLDHAM, for more than twenty years purchasing agent of Gulf Oil Corporation at Houston, has resigned.

LONNIE HUDDLESTON, scout for Shell Oil Company in North Texas with headquarters at Wichita Falls, has resigned to engage in independent oil operations. He is a former secretary-treasurer of the National Oil Scouts Association of America.

BURDETTE BLUE has been named chairman of the Independent Petroleum Association essay contest.

EMBY KAYE, head of gas recycling plant operations for Tide Water Associated Oil Company and Seaboard Oil Company, Dallas, was guest speaker April 20 of the Shreveport Geological Society. His subject was "Recovery of Condensate from Distillate Wells."

L. F. STATTON JOINS ARROW DRILLING COMPANY; WILL SERVE AS HEAD OF GULF COAST OPERATIONS

L. F. STATTON, for the past 4 years assistant to Erle P. Halliburton, president of Halliburton Oil Producing Company, Inc., has resigned to join Arrow Drilling Company. The latter concern is opening offices in the Bankers Mortgage Building in Houston, and Statton will be in charge of operations in the Louisiana-Texas Gulf Coast and Southwest Texas districts. The concern will specialize in two forms of drilling, turnkey oil payment propositions in proven areas and in drilling marsh and water locations.

Statton for 14 years was with Shell Petroleum Corporation and Roxana Petroleum Company, both forerunners of the present Shell Oil Company, Inc. The change to Arrow Drilling Company in a way is a going home move for Statton, as Warren Churchill, president of Arrow Drilling Company, gave him his first job with the Shell interests.

—Blank & Stoller

L. F. STATTON

CARL BRAZELL is now connected with Superior Oil Company, Houston, as scout.

PHIL MARTYN, Houston Oil Company, presented a paleogeology study on the "Middle Catahoula and Associated Formations" at the April 18 meeting of the Houston Geological Society.

W. H. LOCKE, vice president of United Natural Gas Company, traced the history of the natural gas industry last week before a civic group at Oil City, Pennsylvania.

T. H. BARTON, president of Lion Oil Refining Company, heads officers of the company who were re-elected at the company's annual meeting last week in El Dorado, Arkansas. Directors named are T. M. Martin, Jeff Davis, R. E. Meinert, J. J. Allison, A. F. Reed, J. E. Howell, C. N. Barton, E. W. Atkinson and Barton.

HUBERT J. SCHLAFLY, William W. Damron and William J. Roehl last week organized Hub Oil Company as an Illinois development concern. Headquarters have been established at Flora.

DR. J. O. G. SANDERSON, geologist for Home Oil Company, Ltd., left his headquarters at Calgary, Alberta, last week for a two week's visit to California oil fields.

W. V. HARTMAN, vice president in charge of sales for Gulf Oil Corporation, Pittsburgh, has been named a director of the company, and J. E. Nelson, treasurer for the past 22 years, has been named a vice president and treasurer.

R. D. MATTHEWS, executive vice president and a director of Union Oil Company of California, has resigned after 25 years of service with the company.

ANDREW B. AYLING, who entered the oil business in West Virginia for Cudahy Oil Company as a general lease man, will resign May 1 after 20 years as superintendent in the production and pipe line department of National Refining Company. He plans to retain his home in Bartlesville, having transferred to Oklahoma in 1903.

NELLIE ESPERSON, John Dallerup and Gust H. Peters last week organized Niels Esperson Oil Company as a Texas corporation. Headquarters have been established in Houston.

DR. NEVIN N. FENNEMAN, member of the department of geology at the University of Cincinnati and noted as a psysiographer, addressed the Kansas Geological Society meeting at Wichita last week.

E. B. SHAWVER, Kansas operator and president of the Kansas Independent Oil & Gas Association, and Arthur Denman, Sedan operator, were expected to return to Kansas last week from Washington, where they appeared at a congressional hearing on the Truman-Wheeler bill.

DR. A. K. MILLER, of Iowa State University, addressed the Tulsa Geological Society last week on "The Permian of Southwest Coahuila and Its Ammonoid Fauna."

GEORGE C. FRANCISCO, district land man for Sun Oil Company, has returned to Houston headquarters after completing a business trip to St. Paul, Minnesota, where he witnessed his first snow fall in 20 years.

H. S. COLE, JR., manager of the West Texas-New Mexico producing division of The Texas Company, was guest speaker at the April 17 luncheon meeting of the Fort Worth Geological Society.

CAPT. A. A. NICHOLSON, personnel manager of The Texas Company, was the principal speaker at a meeting of the petroleum section of the All Ohio Safety Congress held in Columbus last week. He talked on "Cooperation in Safety, the Best Job Insurance."

P. W. GORDON, R. A. Stephens and R. W. Williamson last week organized Springfield Oil & Gas Company of Illinois as a production company. Headquarters have been established at Springfield.

S. D. BUTCHER, who opened and has been in charge of Midstates Oil Corporation's office in Houston since 1936, has resigned, effective May 15, to operate for himself.

RAY FARRIOR, oil operator making his headquarters at Mattoon, Illinois, has returned to the Illinois basin area from a vacation trip to Honolulu and the West Coast.

H. L. CRILEY, Sun Oil Company geologist, has returned to his former Tulsa station after working in the Forest City basin.

T. TOD CLARK has been added to the production staff of Sun Oil Company in western Kentucky, making his headquarters in the company's recently opened offices in Henderson.

W. G. SAVILIE, J. I. Schumacher and E. C. Fagan have organized Gravity Water Exploration Company as a Texas corporation with headquarters in Houston.

DIED:

ROBERT DAVID GORDON, 53, veteran operator in West Central Texas, died April 17 at his Fort Worth residence after being ill for 3 years. He was born in Germany of Scotch parents, who moved to the United States when he was six years of age. He served 19 years in the United States Army, emerging from the World War as a lieutenant colonel, and was attracted to the oil business by the Ranger boom.

H. PAUL DECKER, 50, independent operator, died April 16 at his Fort Worth residence. The body was forwarded to Independence, Kansas, for burial.

W. L. SLOAN, 60, for more than 30 years an employee in the pipe line division, Gulf Oil Corporation, died of a paralytic stroke on April 16 in Houston. Sloan, an oil dispatcher, was widely known as a sportsman and served as secretary of the Gulf Coast Feld Trial Association.

ADALASKA A. ONG, 77, operator in the Lance Creek field of Wyoming, died last week in Lusk.

JAMES G. SUTTON, 68, president of J. G. Sutton Oil Company and Sutton-Zwolle Oil Company, died April 12 in Lake Charles, Louisiana, of acute indigestion.

C. DALE WOLFE, oil operator in the Seminole field and attorney at Wewoka, Oklahoma, died April 13 following a heart attack suffered a week previously. Survivors include his wife and three daughters.

THE WEEK'S NEWS SUMMARIZED

Capitols

A bill specifically providing for the divorcement of pipe lines from other activities of the industry was introduced into Congress last week, following elimination from the Wheeler transportation bill of such provisions. Prompt hearings are expected to be called on the subject. The purpose of the measure was explained as being to place the transportation of oil and its products on an equal basis for all within the industry and to prevent monopoly.

Oregon joined those opposing the Hobbs and Nye resolutions, which would give the federal government title to California's offshore lands, last week. It was asserted the principle "involved is equally applicable to every state having submerged lands."

With the disclosure that heads of large marketing concerns in the East had been called to Washington for conferences, it was anticipated that an anti-trust suit similar to the ones at Madison would be filed in the East in the near future. This action is believed to depend upon the Department of Justice getting an expanded appropriation from Congress.

The decision of the U. S. Supreme Court upholding federal control of tobacco crops is being interpreted in some quarters as indicating federal control of oil would be approved by this body should the question ever come before it.

Questionnaires calling for information on the oil situation has been sent to leaders of the industry by the Temporary National Economic Committee, which is investigating monopoly conditions. Hearings are scheduled to start in June.

Allowables

Texas' new allowable production order schedule to become effective May 1 is expected to be for a 60-day period, to provide for a one-day shutdown each week, and to keep the state's output within the Bureau of Mines estimate of consumer demand. Statements by Lon Smith and Jerry Sadler, two of the three members on the Texas Railroad Commission, indicated this would be the course followed after a state-wide proration hearing last week.

Meanwhile, operators were seeking additional allowables in some instances, and a supplemental order did grant some increases. This raised Texas' allowable to 1,702,000 barrels, which when the one-day-a-week shutdown is considered gives the state a daily allowable of 1,453,000 barrels.

Preliminary hearings were held during the week on Harrison & Abercrombie's court attack on the Texas proration order. Although fields in which the concern has properties have been granted increased quotas since filing of the suit indications are that it will be prosecuted.

The same officials will head California's production curtailment program during the coming year. Lawrence Vander Leck was renamed chairman of the Central Committee of the state's oil producers, and J. R. Pemberton was re-elected as umpire.

Prices

Both crude oil and refined gasoline prices advanced during the week.

Crude postings were increased in fields of both Southwestern and Central Michigan, and also in the Shreveport field of North Louisiana. Southwestern Michigan prices advanced 10 cents to 88 cents, while a 5- to 7-cent advance in Central Michigan placed Freeman grade at 82 to 89 cents and Midland oil at 92 to 97 cents. Shreveport prices were moved upward 4 cents to $1.05.

Current gasoline tank car prices were up ⅛ cent a gallon in the Oklahoma-Kansas and Chicago areas.

Statistics

Latest weekly statistics reflect excessive operation of both wells and refineries. Recent increases in crude production caused throughput at refineries to jump 185,000 barrels daily to 3,330,000 barrels. The resulting gain in gasoline production created 500,000 barrels of excess gasoline.

Stocks of gas and fuel oil also increased, advancing 600,000 barrels to 126,798,000.

However, a part of the refinery operations were due to withdrawal of crude from storage, and these stocks dropped 350,000 barrels to 275,774,000 barrels during the week.

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Allowable Picture

Expect Texas to issue a 60-day order keeping its output within Bureau demand estimate . . . Suit of Harrison & Abercrombie not to be discontinued.

Texas hearing brings several slashes

Texas' new allowable production order scheduled to become effective May 1 is likely to be for a 60-day period, to provide for six-day production per week, and for keeping the output within the United States Bureau of Mines estimate of consumer demand from the state—if statements of Lon A. Smith and Jerry Sadler, two of the three members of the Texas Railroad Commission, are followed.

Chairman Lon A. Smith, following the hearing last week, asserted six-day production would be continued in May and that the commission was aiming for a statewide order that would keep May output within the Bureau of Mines estimate of demand for Texas crude. The Bureau of Mines estimate was 1,406,100 barrels in May, which is about 6600 barrels less than the comparable figure for April.

Following the statewide proration hearing of the Texas Railroad Commission at Austin, April 17, commissioner Jerry Sadler was quoted as having stated that he favored a 60-day order; that he favored holding the state allowable in Texas to within the United States Bureau of Mines allocation; and that to do this it would be necessary to "nick off" about 50,000 barrels a day to allow for new wells coming in during the 60-day period. When asked where the "nicking" should be done, he said that he was not sure, but that it should be taken from fields which could stand it.

Closer cooperation between the commission and the oil industry was urged by operators who attended the hearing. More than four hours of the hearing had passed before any witness was sworn or any testimony received. Prior to that time, several political speeches had been made, the commission was threatened with federal control, legislators promised no bill would be introduced turning oil and gas over to a new commission, and operators demanded an order signed by all three commissioners.

The technical evidence offered, other than the usual data prepared from commission records, was in the form of written reports on various fields, most of which were intended to show that the field in question should have a higher allowable or that no reduction should be made in the allowables currently set.

After he called the meeting to order, Commission Chairman Lon A. Smith assured operators that the commission has no desire to punish any one. He then called the East Texas docket and Senator Joe Hill of Henderson spoke for the field.

The burden of Hill's argument was condemnation of operators from other sections of the state for court attacks on proration orders when the severe cuts were ordered for fields on April 1.

He pointed out that Sunday shutdowns were instituted in the East Texas field and that it had been closed in one or two days a week ever since November, 1937.

"Even if the Abercrombie wells did cost $100,000," Hill said, "the allowable they have will permit them to pay out in one year, while it will take at least 26 months to pay out a well in East Texas." Hill also raised the question as to the proper classification of the Old Ocean wells, suggested that they were probably gas wells instead of oil producers.

As Hill closed, he suggested that K-M-A be called on in order that the principal complaints might be heard. The operators there offered comparisons between the allowables of their wells and those in Old Ocean, Eureka-Heights, East Placedo, Yates, Peyton, and other fields.

Leslie Humphrey, who apeared for K-M-A, declined to join Hill in condemning the practice of attacking commission orders. He insisted that this was a fair and proper method of determining legal rights.

Harmony Urged

Following the K-M-A statement, Charles I. Francis, Houston attorney, declared that operators should quit condemning the actions of other fields, in an effort to benefit their own properties. He insisted that there was no surer way to obtain federal control than to have these family quarrels in Texas.

"You can develop a condition where every man with a stake in the oil business will lose it. There is not a man on the railroad commission who has not pointed out the hazard of federal control. I have heard high officials in Washington declare that these statewide proration hearings are nothing more than price-fixing meetings."

Francis suggested that the commission might improve conditions generally if it would deny all applications for wells on small tracts unless the applicant could prove that he had made a sincere attempt to unitize with a larger block. This regulation which Francis urged was included for the first time in field rules issued for North Houston earlier in April.

As a second idea, Francis suggested 20- to 40-acre spacing in new fields and as a third suggestion, he would have the commission encourage repressuring and recycling operations everywhere possible.

At the conclusion of Francis' statement, Chairman Smith announced that "a fine sentiment is taking shape in our minds, and in our hearts. We have believed all along that all we needed is the effort on the part of the operators to come together in some worthwhile way and harmonize their differences. In belief that this will occur during a recess, we are calling recess until 2 p.m."

At the afternoon session, Smith began calling on various operators and their attorneys for statements. He indicated that he wanted suggestions for the commission to follow and the speakers took advantage of the occasion to express their views on all subjects, including the Roosevelt peace message, which was hotly debated.

J. A. Elkins, of The Pure Oil Company, was the first speaker.

"Of course there are some inequities, (in adjusting allowables), but the commission has conscientiously tried to do what is right. As long as there is this talk of a shake-down or allowable cuts because of spite, no cooperation can exist."

He recommended that the commission issue orders for longer periods in order to give more stability to the industry.

R. E. Hardwicke, Fort Worth, declared that the same proration formulas should be applied to all fields and that it should be enacted in the law. However, he admitted that for nine years, he had worked with a group attempting to devise such a statute, but that no satisfactory program had been found.

He suggested that the commission send its engineers into the fields and make a survey of local conditions or reserves, and base allowables on these. This plan was generally approved by all of the speakers, including Hill for East Texas.

Charles F. Roeser recommended that the commission issue a 90-day order within Bureau of Mines recommendations, in order to prevent pipe line proration.

"When that order is written," Roeser declared, "we want it signed by three commissioners, not two. This commission has the ability and the intelligence to do that."

Quit New Commission Idea

Three members of the Texas legislature announced that while plans had been made to introduce a bill removing control of oil and gas from the Texas Railroad Commission, these plans had been discarded after adjustments were made promptly in commission orders under fire earlier this month. One member, however, was naive enough to point out that it was too late in the session to pass a bill anyway. Clayton Bray, representative from Longview, asked operators to call on their representatives and senators when in Austin, and give them the figures they needed "to win this tax fight for them. We are having a hard battle up there on the hill and you members should know that you are paying 17 kinds of taxes now," he said.

Commissioner Thompson recommended that the commission issue a 90-day order during the first and last quarters of each year and a 60-day order during the 6-month interval when the consuming season is on. He

thought this would enable operators to plan their developments intelligently and at the same time permit adjustment of orders as conditions might warrant.

Charges that the Gulf Coast had stolen the foreign market from East Texas through price cutting, had been made by Senator Joe Hill, while speaking on behalf of East Texas. He pointed to the port of Corpus Christi where he said shipments had grown enormously during the time the shut down had been in effect.

About Foreign Markets

Maston Nixon, of Southern Minerals Corporation, accepted the challenge from Hill and told of the development of the market for Saxet Frio production.

At the outset the oil was refused by major purchasers and refineries because of the high gravity, Nixon said. The French market was developed because the high-octane gasoline specified by the French government could be obtained by French refineries from this oil although they could not obtain the same products from lower-gravity oil.

The result, Nixon said, was that a new market was developed for Saxet Frio production but the oil could not be supplied from fields producing a different grade of oil. For that reason, he insisted that East Texas would not be benefited by any change in this phase of the Corpus situation. He presented data to show that shipments from the port of Corpus had increased materially since the French contract was made in 1936.

Allowables

The commission announced that the allowables as of April 14, under the new order amounted to 1,453,304 barrels daily, which was 40,604 barrels higher than consumer demand of Texas oil as estimated by the United States Bureau of Mines.

The commission announced that 246 new wells had been completed since April 1, and a total of 1582 completed since the first of the year.

In East Texas the average bottomhole pressure on April 8 was 1100.79 pounds, an increase of .16 pounds since March 8. During the interval, allowables had averaged 404,457 barrels, which indicated a pressure increase of .01 pounds per million barrels of allowable oil during the period. Commission figures indicate that the field allowables will be increased to about 450,000 barrels daily since the Saturday shut down has been removed. The normal pressure drop is anticipated. This may not be observed, however, until June or July figures are available.

Operators filed nominations to purchase 1,576,600 barrels of oil, which is 6133 barrels less than the total nominations for April.

The commission presented a letter from the Department of Interior showing that during 1938 a total of 797,733 barrels of crude oil left Texas ports for Italy and Germany. Commissioner Sadler had indicated his disapproval of such shipments, and the letter appeared to answer a question he had raised at an earlier hearing.

Cosden Refining Company asked for an increase in allowable for the Italian-East Howard, Snyder and Howard-Glasscock in order to supply back orders they have now for 50,000 barrels of oil.

Strake Petroleum Company requested an increase in allowable for the Conroe field and similar requests were made in several other fields of the Gulf Coast.

A reduction in the Fairbanks, Rosslyn and Satsuma allowables was requested by Humble Oil & Refining Company, sole purchaser in the areas. The company has a demand for only 4000 barrels of oil from these fields, but is willing to purchase 7000 of the 9000 barrels now assigned to operators. The reduction was protested by operators, who announced that they were negotiating for the construction of a pipe line and that an allowable cut now might ruin their prospects.

Harrison & Abercrombie continue proration attack

Preliminary hearings in the Harrison & Abercrombie proration case began in Federal Court in Austin last week. The company has brought suit against the Texas Railroad Commission charging discrimination in fixing allowables for wells in the Old Ocean field and other fields of the Gulf Coast where the company operates.

While the commission has revised much of its order, Old Ocean wells are now permitted to produce only 250 barrels daily, whereas the previous allowable was in excess of 300 barrels. It appears that Harrison & Abercrombie plan to prosecute the suit until a federal court ruling is obtained.

The preliminary hearing consisted of testimony by deposition of Railroad Commissioners Lon A. Smith and Jerry Sadler. Commissioner Ernest Thompson attended the hearing but was not called to the stand. Several commission auditors, and Charles Langford, director of production for the commission, testified also.

Commissioner Smith was on the stand longest, and insisted that the commission did not order cuts in allowables for fields in order to aid East Texas. He said that the reductions in the Gulf Coast, Southwest Texas and West Texas were ordered to iron out inequalities.

He could not remember the engineering data upon which the reductions were based, but said that the engineers were consulted. He denied that Tom Foster, East Texas publisher, and F. W. Fischer, East Texas attorney, attended the conferences where the figures were worked out.

Although Commissioner Thompson did not attend the conference, Smith said that he had been invifed and that the order was submitted to him after it was prepared. He denied that any "threat" to issue the order had been made the day before it was announced.

The auditors explained their part in the plan, outlining how they made the mathematical calculations after the field allowables had been fixed.

Commissioner Sadler testified briefly and stated that the cut in Old Ocean had been ordered without a special field hearing. He reminded the attorneys, however, that after the commission had been advised of the full facts, adjustments had been made promptly.

Commission Director of Production Charles Langford testified that in many instances he thought reductions were too drastic and that he objected to them. In the case of Old Ocean, he protested against an allowable of 75 barrels per well, and on the recommendation of Commissioner Smith, it was increased to 100 barrels per well.

Langford told how he consulted with Commissioner Thompson after the conference because "he is a member of the commission and I thought he ought to be advised. The cuts were the most drastic I had ever seen. It was going to wreck everything that had been done in proration . . . Commissioner Sadler told me there was no use to object to the cuts because we are going to cut them."

Thompson advised Langford to make notes on the conference, and it was from these notes that much of his testimony at the hearing was obtained. Assistant Attorney General James Hart brought out that Old Ocean operators filed little data about their field, that some of the reports were missing. Langford said he got most of his infomation from Stanley Gill, petroleum engineer for Harrison & Abercrombie in the field.

The data will be made a part of the record and presented when a trial before a three-judge court is held.

Supplemental order makes more Texas changes

An order has been issued by the Texas Railroad Commission increasing the allowable for several fields that were cut back on April 1, but not included when increases were granted on April 7.

In Southwest Texas East Placedo was raised to 755 barrels; Conoco-Driscoll was increased to 2345 barrels; Moca was raised to 438 barrels; Rancho Solo was granted 600 barrels; Tesoro received 420 barrels.

In the Gulf Coast Eureka Heights was increased to 3316 barrels; South Esperson was granted 86 barrels; Hamman Deep was fixed at 1908 barrels; Hamman Shallow was changed to 748 barrels; High Island was raised to 2506 barrels; West Orange received 2668 barrels; West Beaumont was granted 2583 barrels.

The order provided that in West Texas Dean was raised to 60 barrels, Eaves was fixed at 343 barrels, and Leck obtained 309 barrels.

Exempt Sunday Shut Down

The Texas Railroad Commission has issued an order retroactive to April 1, exempting the following fields from the Sunday shut down: Eckert, Minerva-Rookdale, Somerset, Barbers Hill, Boling, Goose Creek, Hamman Deep, High Island, Hitchcock, Lochridge, Old Hull, New Hull, New Mykawa, Old Ocean, Charamousca, Midway, Corsicana, Currie, Mexia, Powell, Richland, Wortham, Wortham Shallow, Big Lake, McMillan, World, Eaves, Garza, Hendrick, Leck, Shearer, Taylor-Link, and Tobarg.

The order was issued because "the large amount of water produced incident to the oil production, and due to other exceptionally difficult operating conditions, cannot be restricted one-seventh of the weekly allowable with-

out causing actual physical waste, and, therefore, should not be subject to the shut down . . . order."

Texas operators seek additional increases

Additional allowable increases were requested by operators attending a continuation of the state-wide proration hearing held in Austin on Thursday, April 20.

The outstanding feature of the hearing was the protest by Judge Ray Starnes of East Texas, against allowable increases for the Turkey Creek field, San Patricio County. Operators asked for 100 barrels per well to permit them to fulfill foreign contracts which they hold.

Starnes insisted that East Texas crude could be substituted for this oil and sought to prove that it was these increases which had lost part of the East Texas foreign market. The operators protested that the oil was peculiarly adapted to the foreign demand because it cuts 33 percent 70 octane gasoline.

Starnes suggested that all fields be prorated on a common yardstick of 25 percent on reserves, 25 percent on acreage and 50 percent per well.

Seaboard Oil Company requested 100 barrels per well for the Riverside field, Nueces County, and Shell Oil Company asked for increases in Lovell's Lake, Clam Lake, Nome and Mauritz.

Phillips Petroleum Company requested an increase of 80 barrels for wells in the Midway field, San Patricio County, and Rio Bravo requested a restoration of the old allowable for the South Ward field, Ward County.

An increase for wells in the Kelsey field, Jim Wells County, was requested by Humble Oil & Refining Company. The allowable has been cut to 31 barrels per well. Ohio Oil Company requested an increase for two wells in the North Markham field.

Vander Leck is re-elected Central Committee chairman

With the re-election of Lawrence Vander Leck as chairman of the Central Committee of California Oil Producers for his fifth term, the employment again of J. R. Pemberton as oil umpire for the ensuing year, further efforts to cut crude production, reduce new drilling and an attempt to push through a uniform allowable for all wells in the state will be the program for the next few months.

The annual organization of the Central Committee followed the election of members to this important group last week. As his first official duty, Vander Leck appointed the Allocation Committee, which will be headed for the third year by L. L. Aubert. He will be aided by W. C. Whaley, R. A. Sperry, W. H. Geis, Joseph Jensen, M. A. Machris and William Keck, Jr.

For the Administrative Committee Vander Leck named W. C. Whaley, chairman, to be assisted by Jav U. Stair, A. H. Bell, E. B. Hall and R. A. Sperry.

The New Well Committee includes: Dana Hogan, chairman, assisted by R. I. Lytle, E. G. Williams, Wilbur Harrison and E. Robert Burns.

Ross McCollum was named chairman of the Compliance Committee and will be aided by Emil Kluth, E. D. Hardison, E. G. Williams and J. J. Sargent.

Delegates-at-large elected were: Los Angeles Basin, I. M. Stevens; San Joaquin Valley, E. C. Bolton; Coastal District, Emil Kluth.

Miss Bettye Bohanon, secretary of the Central Committee, was unanimously re-elected.

The new Central Committee is expected to take immediate action on the recommendations of the Fact Finding Committee which submitted its report last March to the Petroleum industry. At the organization meeting, the committee approved the recommendations, but will make further studies this week.

On April 26, the Central Committee will set the crude production quota for May and discuss the uniform schedule.

District Members

Fourteen new faces were seen as members of the Central Committee of California Oil Producers after the election. The new lineup follows:

District 1, embracing North Belridge, South Belridge and Lost Hills, R. A. Sperry, General Petroleum Corporation, chairman; F. B. Sutton, Belridge Oil Company, vice chairman.

District 2, embracing Buena Vista and Elk Hills, H. S. Stark, Honolulu Oil Corporation, chairman; R. L. Keys, vice chairman.

District 3, embracing Coles Levee, Richfield Western, Canal, Greeley, Rio Bravo, Ten Section and Wasco fields, R. D. Montgomery, Richfield Oil Company, chairman; F. E. Smith, Ohio Oil Company, vice chairman.

District 4, including East Coalinga and West Coalinga, W. S. Fisher, Mercantile Crude Oil Company, chairman; Frank Wells, Inca Oil Company, vice chairman.

District 5, Coalinga Nose field, Robert S. Lytle, chairman; William Keck, Jr., Superior Oil Company, vice chairman.

District 6, Kettleman Hills, J. H. Sargent, Kettleman North Dome Association, chairman; R. I. Brown, Standard Oil Company of California, vice chairman.

District 7, including Mount Poso, Round Mountain, Coffee Canyon and Terra Bella, R. N. McMaster, Kettleman North Dome Association, chairman; D. L. Caldwell, Barnsdall Oil Company, vice chairman.

District 8, including Poso Creek, Kern River, Fruitvale and Kern Front, Lloyd Williamson, California Star Oil Company, chairman; J. L. Brown, Western Gulf Oil Company, vice chairman.

District 9, embracing Mountain View and Edison, Ross McCollum, National Oil Company, chairman; Dana Hogan, Hogan Petroleum Company, vice chairman.

District 10, Midway-Maricopa, Lake View and McKittrick fields, H. F. Owen, Berry Oil Company, chairman; J. R. Thoms, North American Consolidated Oil Company, vice chairman.

District 11, Santa Maria Valley, election tied, new election to be held soon.

District 12, including Gato Ridge, Cat Canyon, Lompoc, Casmalia, Los Flores, Orcutt fields, W. H. Geis, Union Oil Company, chairman; O. C. Field, O. C. Field Gasoline Corporation, vice chairman.

District 13, including Aliso Canyon, Newhall - Potrero, Capitan. Elwood, Padre Canyon, Rincon and San Miguelito, L. L. Aubert, Bankline Oil Company, chairman; F. L. Campbell, Richfield Oil Corporation, vice chairman.

District 14, Ventura Avenue, Joseph Jensen, Tide Water Associated Oil Company, chairman; William Hobro, Shell Oil Company, vice chairman.

District 15, including Santa Barbara, Summerland, Conejo-Oxnard, Sargent, Half Moon Bay, and Santa Paula-Newhall, H. P. Grimm, Bolsa Chica Oil Corporation, chairman; S. P. Mullen, Merchants Petroleum Company, vice chairman.

District 16, Alamitos Heights and Seal Beach, A. H. Bell, Continental Oil Company, chairman; Warren Craddock, Pacific Western Oil Company, vice chairman.

District 17, embracing Brea-Olinda, Chino, Kraemer, East and West Coyote, Puente, Richfield and Yorba Linda, Lawrence Vander Leck, Fullerton Oil Company, chairman; R. W. French, Continental Oil Company, vice chairman.

District 18, Dominguez, Jay U. Stair, Shell Oil Company, chairman; E. D. Hardison, Union Oil Company, vice chairman.

District 19, embracing El Segundo, Playa del Rey, Potrero, Los Angeles, and Lawndale, Laurence C. Kelly, Thomas Kelly & Sons, chairman; C. C. Spicer, Republic Petroleum Company, vice chairman.

District 20, including Old and New Huntington Beach, M. A. Machris, Wilshire Oil Company, chairman; A. M. Anderson, Holly Development Company, vice chairman.

District 21, Inglewood, Warner Clark, Standard Oil Company of California, chairman; Quay S. Diven, Tide Water Associated Oil Company, vice chairman.

District 22, Long Beach, Wilbur Harrison, Apex Petroleum Company, chairman; Neil Elder, Morton & Elder, vice chairman.

District 23, Montebello, West End Montebello and Whittier, F. M. Ziegler, St. Helens Petroleum Company, chairman; R. H. Garrison, consulting engineer, vice chairman.

District 24, Athens-Rosecrans, W. C. Whaley, Barnsdall Oil Company, chairman; L. R. Rogers, Superior Oil Company, vice chairman.

District 25, Santa Fe Springs, V. H. Wilhelm, The Texas Company, chairman; Henry Power, General Petroleum Corporation, vice chairman.

District 26, Torrance-Hermosa, Robert E. Burns, MacDonald & Burns, chairman; Neal H. Anderson, vice chairman.

District 27, Wilmington-Long Beach area, C. G. Williams, Long Beach Harbor Oil Company, chairman; Al Jergins, Jergins Oil Company, vice chairman.

District 28, Wilmington Town Lot area, E. B. Hall, Union Pacific Railroad Company, chairman; W. H. Eastman, Sunray Oil Company, vice chairman.

Illinois independents state proration would hinder

Proration was pictured as a hindrance to the development of Illinois oil fields when the Joint Legislative Committee held its hearing in Centralia April 21. Opposition came from independent producers, independent refiners, some land owners and a few royalty owners. Final hearings are to be held at Mattoon April 28.

Independent producers are divided on the question of proration. Those favoring it were represented by John Pugh, Centralia, president of the Illinois Petroleum Association, who strongly urged passage of a proration measure.

E. C. Hienz, Eagle Oil Company, offered first opposition when he said he would not be in Illinois and ready to drill a well if he thought the state would have proration. He recounted experience in the Conroe (Texas) field as his reason for opposing proration. There he said reduction in well output had made it impossible to show a profit from production.

L. B. Manley, president of Manley Pipe Line Company, which transports oil from the Salem field to independent refiners in Centralia, classed proration as detrimental to the independent producer.

"We will be forced to quit as we did in East Texas," he said.

Manley also testified that independent refining concerns are waiting to see the outcome of proration before deciding what to do about building plants in Illinois.

Sam B. Jarvis, Decatur, Illinois, told the committee that the remedy for pipe line proration in Illinois is the building of more independent refineries. He said proration would be detrimental to the development of Illinois fields. He gave his experience in Kansas where he said proration had forced him to abandon a property because no profit could be made under legal restrictions of the regulatory body there. He showed the committee a message from Clyde M. Boggs, president, Kanotex Refining Company, Arkansas City, Kansas, to the effect that no decision would be made about building an Illinois plant pending the outcome of legislative restrictions.

His remedy was to let the industry alone in Illinois, saying, "It will right

[*Continued on page 256*]

Oil at the Capitols

Detailed data on oil situation are requested by monopoly investigators . . . Justice Department calls Eastern marketing to Washington . . . Pipe line divorce provided for in a specific measure

Questionnaires sent out by monopoly committee

Questionnaries calling for information as to the oil situation have been sent by the Temporary National Economic Committee to members of the industry, in an effort to gather data for use in its investigation of monopoly in the oil industry, hearings on which are to begin early in June.

Information has been requested of "some forty corporations," it was explained by Senator Joseph C. O'Mahoney, chairman of the T.N.E.C., and they have been asked to return the completed questionnaire by May 22 in order that the information may be analyzed before the hearings open.

The questionnaire calls for detailed information as to the 100 largest common stockholders, officers and directors, employees of all types and investment and banking houses through which securities have been floated during the past three years.

Full information as to financing, profits, dividends, etc., also is sought, together with data regarding subsidiaries, affiliates and all companies in which the reporting corporation has an interest.

With respect to operations, the committee asks for information as to total acreage held, with detailed figures on land owned in fee and leased, whether producing or non-producing; estimates of the oil reserves of lands held, by fields; number of producing wells; production, purchases, imports, exports and sales from 1929 to 1938, inclusive; storage capacity and stocks on hand for each year; details on crude pipe lines and their operation; refinery operations; and marketing operations.

The committee requests detailed information as to marketing operations and filling station ownership, and calls for copies of each type of contract used by the reporting company.

Anti-trust suit may be filed in East soon

Possibilities that the long-reported suit against oil companies in the East, similar to the Madison cases, may be initiated in the near future were seen in Washington last week in the disclosure that the Department of Justice had called in the marketing heads of the major companies for conferences.

Assistant Attorney General Thurman Arnold this week is due to appear before a House appropriations subcommittee to ask for increased funds for the anti-trust division, the staff of which he desires to double in order that he may bring cases which heretofore have been impossible because of lack of personnel.

An immediate appropriation for expansion was denied last month by the House committee, which told Arnold to wait for the regular Department of Justice appropriation bill. The future course of the department's monopoly drive is seen as dependent largely upon whether increased funds are provided, it being rumored that the assistant attorney general will relinquish his position if his plans for broadening his campaign are rejected.

Supreme Court action approves federal control

Indications that the Supreme Court would affirm the authority of Congress to provide for federal control of the oil industry, should such a step ever be taken, are seen by Russell B. Brown, general counsel of the Independent Petroleum Association of America, in a decision by the court April 17 upholding legislation providing marketing quotas for tobacco.

The court's decision, Brown said, could well be applied to the oil industry by substituting the word "petroleum" for "tobacco" in the following excerpt:

"Section 311 is a finding by the Congress that the marketing of tobacco (petroleum) is a basic industry which directly affects interstate and foreign commerce; that stable conditions in such marketing are necessary to the general welfare; that tobacco (petroleum) is sold on a national market and it and its products move almost wholly in interstate and foreign commerce; that without federal assistance the farmers (producers) are unable to bring about orderly marketing, with the consequence that abnormally excessive supplies are produced and dumped indiscriminately on the national market; that this disorderly marketing of excess supply burdens and obstructs interstate and foreign commerce, causes reduction in prices and consequent injury to commerce, creates disparity between the prices of tobacco (petroleum) in interstate and foreign commerce and the prices of industrial products in such commerce, and diminishes the volume of interstate commerce in industrial products; and that the establishment of quotas as provided by the act is necessary and appropriate to promote, foster and obtain an orderly flow of tobacco (petroleum) in interstate and foreign commerce."

Borah and Gillette bill would divorce pipe lines

Elimination from the Wheeler transportation bill of provisions extending the "commodities clause" so as to require the divorce of pipe lines from other activities of the oil industry resulted this week in the introduction in Congress by Senators Borah of Idaho and Gillette of Iowa of a bill specifically providing for divorcement.

In introducing the measure, the senators pointed out that President Roosevent has stated publicly that pipe line divorcement legislation should be enacted as soon as possible, and said that they would seek prompt hearings on the subject.

Explaining that the purpose of the

bill is to place the transportation of oil and its products on an equal basis for all within the industry and to prevent monopoly, Senator Borah declared that approximately 87 percent of the business of the petroleum industry is in the hands of five percent of the refining companies, whose total assets aggregate $9,000,000,000. Despite the claim of competition, he said, these comparatively few corporations function practically as one against outside competition, and despite the claim of low prices to the consumer, the 20 largest companies showed net profits in excess of $5,200,000,000 over the past 17 years and during 1937 alone showed net profits of nearly $566,000,000.

Monopoly Charged

It was contended by Senator Gillette that pipe line transportation is a virtual monopoly in the hands of the larger oil companies and that it is impracticable, if not impossible, for an outsider to use the lines. Although the transportation of oil by pipe line is the cheapest form of transportation, he charged, the savings have not been passed along to the consumer, but, rather, have been translated into profits for the companies. Profits of the major oil companies from interstate pipe line operations alone during the past 17 years have exceeded $1,500,000,000, and during 1937 reached nearly $130,000,000, he declared.

These huge profits, he said, also are used to compensate for losses in other branches of the trade in which the larger companies attempt to freeze out competition. For example, he said, during 1931, while net losses in all operations of the 20 largest oil companies amounted to nearly $41,000,000, they showed a profit in excess of $120,000,000 from interstate pipe line operation.

"It cannot be too strongly emphasized that the growth and present power of the major oil companies rests primarily on the control of transportation facilities in one form or another," Senator Gillette declared.

Will consider making Connally act permanent

Brief hearings on the Connally bill to make the "hot oil" act permanent will be held by the House Interstate and Foreign Commerce Committee in Washington April 26.

It was explained that the committee has no intention of becoming involved in a lengthy "rehash" of the testimony given in hearings held on the legislation in previous years, but that a number of requests had been received for an opportunity to testify which it was felt should be granted.

Most urgent request for a hearing was received from the National Oil Marketers Association, which is opposed to the "hot oil" act as a weapon to strengthen the position of the integrated companies.

Requests for a hearing were filed with the Senate Finance Committee by the association and others, but that committee reported the bill March 16 without any hearing, and it was passed by the senate without debate on March 23.

It is generally believed that the House committee is holding the hearing for the purpose of developing a basis for a recommendation it is expected to make that the bill be continued for another two years instead of being made permanent law. A similar step was taken two years ago, after the Senate approved Senator Connally's suggestion that the act be made permanent.

Oregon's representative opposes Hobbs resolution

Declaring that Congress has no power to transfer title or create rights in submerged lands over which the coastal states claim sovereignty, Representative Homer D. Angell (Republican) on April 19 carried Oregon's fight against the Hobbs resolution to the floor of the House in an appeal for the support of delegations from the coastal states against legislation which he asserted "would result in open confiscation by the federal government of property rights of the several states and individual citizens."

Admitting that the Hobbs and Nye resolutions, on which the House judiciary and Senate public lands committees held hearings in March, are concerned only with California oil lands, Congressman Angell told the House that "the principle involved is equally applicable to every state in the union having submerged lands and particularly to those states bordering upon the ocean."

Like other coastal states, he explained, Oregon is interested in the question involved, as it is equally applicable to docks and to structures over waters adjacent to the shore line.

"The only purpose to be served by such legislation is an attempt by the sponsors of it to secure an expression from Congress to the effect that the federal government has some rights in these submerged lands and the petroleum products lying thereunder," he declared. "It is a matter over which the Congress has no jurisdiction.

"Furthermore, if the Congress should enact such a resolution it would place a cloud upon the title to extensive holdings in these submerged lands with millions of dollars of improvements made thereon, not alone in the oil fields but in docks, wharves, elevators, flour mills, sawmills, warehouses, maritime facilities and other public improvements now held by private individuals, states, port bodies and other municipal corporations, many of which are covered by bond issues, the value of which would be jeopardized by such a cloud upon the title."

The powers sought under the resolutions, he warned, "are only held by a totalitarian state and not by a constitutional democracy such as the United States.

Labor Situation

Seamen of three large tanker owning firms strike . . . Strikers at Mid-Continent refinery are indicted

Seamen strike may tie up thirty tankers

The strike of tanker seamen of the National Maritime Union, C.I.O. affiliate, against three oil companies and a shipping concern, inaugurated April 17 on the Atlatic seaboard and the Gulf Coast, is based on demands for wage increases, closed shop agreements, and union control of hiring.

Companies affected are Standard Oil Company of New Jersey, Socony-Vacuum Oil Company, Tide Water Associated Oil Company, and C. D. Mallory & Company.

Crews Walk Off

Relatively few ships of these companies were in port late last week, although the crews of several had walked off upon docking, in response to the strike order.

Union officials said that as tankers involved arrived at Gulf or Atlantic ports, the crews would walk off and form picket lines at the docks.

The union went on strike after a breakdown of negotiations for new labor contracts with the companies, and union officials claimed that 30 ships and 1000 seamen were laid up.

The union meanwhile was asking organized labor to boycott the products of the oil companies affected, and service stations of the companies were being picketed in several cities.

The strike of the tanker seamen was not expected to be felt appreciably in the oil producing areas, at least for some time, although it was pointed out that a few big shippers of oil might be handicapped for a while.

It was understood that much oil was moved by "common carriers" ships and that the crews of such boats included many foreigners that would not join up with the C.I.O. union.

Some major companies have a minority of C.I.O. men in their tanker crews, and they probably will not be faced with strikes.

Could Affect Production

It was conceded, nevertheless, that the strike of the tanker seamen could backfire on the production end of the oil business if extended over a protracted period, as well as on the refinery branch where Atlantic coast plants are dependent on water movement of oil.

There is not a great amount of idle crude oil tankage on the Gulf Coast, and in the event of protracted interference with ship movements, some of the companies might be forced to cut down their pipe line runs to the coast and to fall back on field storage in the interior.

Many of the large oil companies now operate on a streamlined basis, depending on smooth operations all down the line, and an unusual situation like a tanker tie-up could cause serious difficulties.

It was reported that on April 20, when

the strike had been in progress two days, four vessels operated by companies involved departed from Atlantic and Gulf ports. Standard of New Jersey tankers were reported to have sailed from Providence, Rhode Island, New York, and Baton Rouge, Louisiana, while a Tide Water ship was reported as having sailed from Lake Charles, Louisiana.

However, tankers of the companies were reported tied up in various ports, including New York, Philadelphia, Boston, Galveston, New Orleans, and Baton Rouge.

Jury indicts instigators of Mid-Continent strike

Wholesale arraignment of 140 members of the C.I.O. allied Oil Workers International Union was begun in Tulsa, Oklahoma, early last week after a Tulsa County grand jury indicted the men for participation in the strike at Mid-Continent Petroleum Corporation's West Tulsa refinery. Heading the list was Jack Hays, president of the Tulsa local of the union, who, according to the jury findings, met with 11 other men in Drumright, Oklahoma, and planned the strike two days in advance of its start on December 22, 1938. Conspiracy, unlawful assembly, and directing a riot were the charges upon which the true bills were based. The jury expressed concern over "acts of violence growing out of the Mid-Continent strike" and accused the strikers of coercion and intimidation by force in bringing reluctant employees into the strike ranks. Meanwhile, the strike was still in effect and National guardsmen maintained their stations taken Christmas eve.

Crown Central picket cordon removed by union agreement

Pickets were removed from Crown Central Petroleum Corporation's Houston refinery April 17 after the company agreed to recognize the Oil Workers International Union as bargaining agent for its members. Establishment of wage, hour, and working condition agreements are expected to result from a series of conferences started April 20, and reopening of the plant after a 7-week shut down is believed to be the next move to bring the company into complete accord with the unions whose pickets and representatives have beset it for the past 9 weeks.

The agreement provides that when the plant reopens former employees may return to their jobs without discrimination; the company will recognize the union as bargaining agent for its members only; the union's petition for certification now pending before the NLRB, and a portion of the union's charge that the company fostered its own union, also pending before the NLRB, will be allowed to remain before the board for disposition.

Picketing first started February 13 to protest the handling of oils processed by the C. I. O.-strike bound Mid-Continent Petroleum Corporation at Tulsa, Oklahoma. The refinery was shut down two weeks afterward, assertedly because of overstock, and the union's charge of "maintaining a company union" was filed soon thereafter.

Market Situation

Crude prices advanced in Michigan fields and one North Louisiana area . . . Gasoline postings also improved, despite excessive output of refineries

Market gains threatened by excessive operations

The markets of the oil industry have displayed noteworthy strength within the past two weeks, wholesale prices of gasoline and of heavy, industrial fuel oils having been advanced, while crude postings also have been raised in several districts, including most of the Michigan fields and a North Louisiana field.

While these price increases have been encouraging, however, some doubt has been cast on the ability of the markets to extend the improvement or even to hold the recent gains, as both crude oil production and refinery runs have been increased sharply, and impairment of the statistical situation may ensue.

Allowables for May in the leading producing states are awaited with interest, as they will give indication of how well crude production is likely to balance with market demand during the month.

Inter-refinery buying of gasoline has occurred in substantial proportions lately, and purchasers have found supplies relatively scarce and tightly held, despite the fact that total stocks for the country as a whole are considered larger than economically desirable.

In the Mid-Continent refining areas tank car prices of gasoline have improved another ⅛ cent a gallon in many instances, and quotations have been advanced similarly in the Chicago marketing territory. Minimum quotations are now ¼ cent a gallon higher than several weeks ago in numerous cases. However, the wholesale gasoline prices are generally ⅜ to ½ cent a gallon lower than at this time last year.

Encouraging has been the improvement lately in the markets for the heavy fuel oils, used as fuel by industry. Demand for those oils was materially reduced in 1938 because of the curtailed industrial production in general, and the present improved demand reflects the revival in business. Meanwhile, surplus stocks of the heavy oils have been cut down, and the demand now is good in relation to the supply. This situation resulted last week in the announcement by Standard Oil Company of Indiana of increases in tank car prices of the residual fuel oils.

Prices of crude oil and products raised

Price changes in the oil industry within the past 10 days have affected both crude and refined oils.

Crude postings have been increased in fields of both Southwestern and Central Michigan and also in the Shreveport field of North Louisiana.

Gasoline tank car prices have been advanced another ⅛-cent a gallon in some instances in the Mid-Continent refining districts, and also in the Chicago marketing territory.

Prices of light fuel oils have further sagged, but increases have been made by Standard Oil Company of Indiana in tank car prices of the heavy fuel oils, used for industrial purposes.

Imperial Refining Company posted a 10-cent advance, effective Aprii 17, in the price of crude oil in the Walker pool, Kent County, Southwestern Michigan, and for all Allegan County grades. The new price is 88 cents a barrel.

Following the 10-cent increases in the Southwestern Michigan fields, Pure Transportation Company and Leonard Pipe Line posted 5- to 7-cent advances in Central Michigan grade crude oils, effective April 20. Freeman grade was advanced from 82 to 89 cents a barrel and Midland grade from 92 to 97 cents.

Caddo Crude Oil Purchasing Company (M. J. Grogan), which buys a large part of the crude in Shreveport field, North Louisiana, increased the posting there to $1.05 a barrel, a raise of 4 cents, effective April 18. Lion Oil Refining Company, the other buyer in the field, met the new posting. The increase was the third in recent months for the area and made the posting in the field equal to that in any other North Louisiana area for that grade of crude.

Effective April 17, Standard Oil Company of Indiana advanced tank car prices of residual fuel oils at its Whiting refinery by ¼ cent a gallon as applying to Bunker C grade and 1/10 cent a gallon on the lighter grades. The increase was explained as having resulted from better demand for the heavy oils, used for industrial purposes, and from reduced inventories of those oils.

Current gasoline tank car prices are in numerous instances ⅛ cent a gallon higher than those prevailing a week ago, in the Oklahoma-Kansas refining areas and in the Chicago market. Natural gasoline also is quoted ⅛ cent a gallon higher in the Mid-Continent.

Gasoline Prices Up

U. S. motor gasoline ranged in the Oklahoma market last week about as follows: 62 octane and below, 4 to 4¼ cents a gallon; 63 to 66 octane, 4¼ to 4⅜ cents; 67 to 69 octane, 4½ to 4¾ cents; 70 to 72 octane, 4¾ to 5 cents.

Corresponding prices in the Chicago market were 3¾ to 4⅛ cents, 4 to 4¼ cents, 4⅛ to 4⅝ cents and 4⅜ to 4⅞ cents.

In East Texas, 60-62, 400 end point gasoline was priced generally at 4¼ to 4⅜ cents a gallon.

Natural gasoline, grade 26-70, was selling in the Mid-Continent markets,

f.o.b. refineries at 2½ to 2⅝ cents a gallon, and sales were reported at 2½ cents f.o.b. Breckenridge, Texas.

Kerosene and Fuels

Kerosene prices f.o.b. Oklahoma refineries ranged from 3⅞ to 4¼ cents a gallon for the 41-43 water white grade, and from 4 to 4⅝ cents for the 42-44 water white grade; and corresponding prices in the Chicago market were 3½ to 4⅛ cents and 3⅝ to 4⅜ cents.

Prices of light fuel oils were generally unchanged last week. In the Chicago market range oil was priced from 3⅜ to 4 cents a gallon. The No. 1 white oil was priced from 3¼ to 3⅞ cents, and No. 1 straw from 3¼ to 3½ cents. No. 2 straw was 3⅛ to 3½ cents. No. 3 oil was 3 to 3¼ cents. No. 5 oils were 57½ to 70 cents a barrel. The No. 6 oil was quoted at 35 to 45 cents.

Crude oil production and refinery runs too high

Excessive operations at wells and refineries were reflected in the latest weekly statistics of the industry.

Crude oil production rose sharply and exceeded demand in the week ended April 15, and refinery runs were increased greatly, causing larger gasoline production and a contra-seasonal addition to gasoline stocks.

Production Above Demand

United States crude production averaged 3,494,500 barrels daily in the week of April 15. That was 50,600 barrels a day more than the output in the previous week and 3.2 percent more than in the corresponding week last year. It was approximately 60,000 barrels a day more than market demand as estimated for April by the Bureau of Mines. Texas was about 23,000 barrels a day above its market demand, California showed a 34,000-barrel excess, Illinois over-produced demand about 16,000 barrels daily, Michigan yielded an excess of 10,000 barrels daily, and Kansas was 17,000 barrels daily above demand. Arkansas, Louisiana, and New Mexico were near or slightly under their allocations of the national demand, and Oklahoma was about 37,000 barrels a day under its allocation.

Crude runs to refinery stills averaged 3,330,000 barrels daily in the week ended April 15, having risen by the large amount of 185,000 barrels above the previous week's level. The runs were 5.7 percent higher than those of 3,150,000 barrels daily in the corresponding week last year.

Gasoline Situation

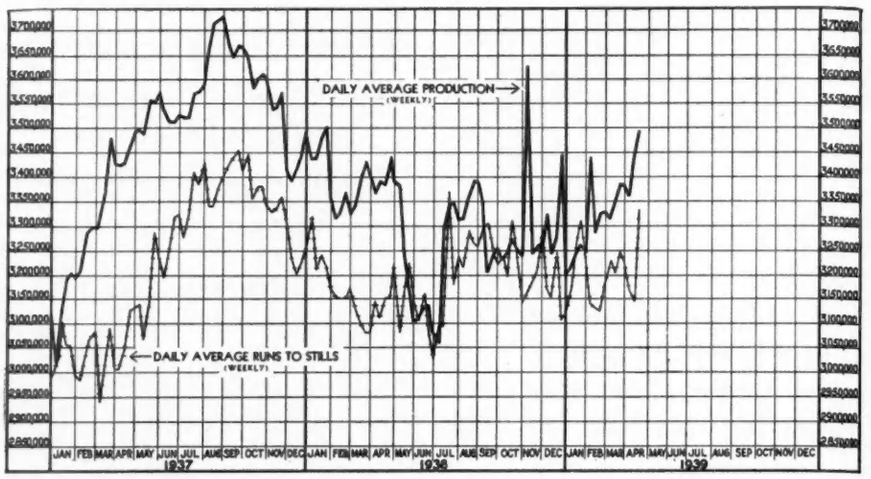
Gasoline production increased to 9,760,000 barrels in the week ended April 15 from 9,389,000 barrels the previous week.

Stocks of finished and unfinished gasoline in the United States were increased nearly 500,000 barrels, to a total of 87,071,000 barrels in the week ended April 15, although a withdrawal of gasoline from storage would have been normal, considering the time of the year. The stocks were 5.3 percent lower than a year before, despite the increase, but before the addition they had been 6.1 percent under a year previously. Although the gasoline inventory totaled about 92,000,000 barrels on April 16 last year, it was seriously excessive at that time.

Stocks of gas oil and fuel oil were increased about 600,000 barrels in the week ended April 15, having risen to 126,798,000 barrels, compared with 125,946,000 barrels on April 16 last year.

Crude oil stocks totaled 275,774,000 barrels on April 8, latest date for which Bureau of Mines figures are available, having been reduced about 350,000 barrels within the week preceding.

United States Crude Oil Production and Refinery Runs



Trends of United States Production and Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
September 25, 1937	3,666,300	*3,455,000	307,974,000	65,620,000	116,472,000
March 19, 1938	3,433,550	3,080,000	306,380,000	*93,192,000	122,067,000
March 26	3,405,600	3,080,000	307,557,000	92,858,000	122,969,000
April 30	3,396,150	3,215,000	307,147,000	91,339,000	128,270,000
May 28	3,098,650	3,150,000	301,583,000	87,946,000	134,315,000
June 25	3,083,900	3,025,000	293,463,000	82,412,000	137,801,000
July 30	3,316,400	3,240,000	288,514,000	76,864,000	144,294,000
August 27	3,388,500	3,255,000	285,029,000	71,754,000	146,926,000
September 24	3,251,150	3,220,000	280,278,000	68,605,000	150,468,000
October 1	3,231,800	3,235,000	280,852,000	68,602,000	151,759,000
October 29	3,237,500	3,145,000	275,824,000	67,590,000	153,719,000
November 12	3,243,250	3,180,000	273,394,000	67,551,000	*154,666,000
November 26	3,260,900	3,295,000	270,563,000	68,628,000	153,634,000
December 10	3,245,100	3,150,000	†269,509,000	68,587,000	150,779,000
December 31	3,201,450	3,115,000	273,024,000	71,695,000	144,823,000
January 28, 1939	3,248,250	3,235,000	271,763,000	77,279,000	139,349,000
February 25	3,328,850	3,185,000	271,758,000	84,597,000	133,671,000
March 4	3,314,850	3,230,000	272,971,000	85,379,000	131,930,000
March 25	3,382,350	3,225,000	273,915,000	87,561,000	129,915,000
April 1	3,358,200	3,170,000	276,119,000	87,277,000	127,893,000
April 8	3,443,900	3,145,000	275,774,000	86,613,000	126,199,000
April 15, 1939	3,494,500	3,330,000	.....	87,071,000	126,798,000
April 16, 1938	3,385,400	3,150,000	‡307,556,000	92,001,000	125,946,000
Change in past year	+3.2%	+5.7%	—10.3%	—5.3%	+0.7%

* All time peak. † Lowest for 17 years. ‡ Stocks, April 9, 1938.

Gasoline tax collections for March at low point

March collections from the federal gasoline tax were at the lowest point for any month since last May, but were slightly above those of March, 1938, it was reported by the Internal Revenue Bureau April 21.

Collections for the month were $14,577,873, a drop of approximately $1,850,000 from the $16,427,083 reported for February, but nearly $360,000 ahead of the $14,218,796 of March of last year, it was announced.

Collections from the taxes on lubricating oils were ahead of both the previous month and the corresponding month last year, totaling $2,169,637 against $2,128,468 in February and $1,876,304 in March, 1938, but receipts

from pipe line transportation were under both months, $968,041 against $1,092,782 in February and $1,177,678 in March a year ago.

For the first nine months of the fiscal year, which began July 1, last, the bureau reported, collections from the gasoline tax were slightly greater, but those from the other two levies somewhat below those of the corresponding period a year ago.

During the nine months $157,663,348 was derived from the gasoline tax, compared with $157,287,688, a gain of $375,660; $23,261,038 from lubricating oils, against $23,635,633, a loss of $374,595; and $8,379,315 from pipe line transportation, against $9,760,615, a loss of $1,381,300.

Oklahoma crude bought as Texas field curbed

Austin, Texas.—One large purchaser and producer of oil in Texas has been forced to purchase 10,000 barrels per day of Oklahoma crude to substitute for Gulf Coast crude as a result of recent reductions in Gulf Coast allowables, Commissioner Lon Smith was advised during the past week. The particular Gulf Coast crude for which the substitution was made has a heavy kerosene and lubricating content, Commissioner Smith was advised.

Crude Production

Increase of 65,330 barrels brings United States daily average to another high level of the year

UNITED STATES production of crude oil during the week ended April 22 touched a record level for the year at 3,522,810 barrels daily average. Production for the preceding week, previous high for the year, was exceeded by 65,330 barrels daily. Estimate of demand for domestic crude made by the Bureau of Mines was topped by 88,810 barrels daily as continued upward adjustment of Texas allowables released the rein on output, with a strong Oklahoma gain contributing to the new record.

Texas Up Again

Texas yield, 1,450,150 barrels daily, was 56,250 barrels greater than that for the week prior as restitution of allowable cuts and increased water exemptions went into effect. Bureau forecast fell 37,450 barrels short of production.

Louisiana lifted 269,650 barrels daily to lead the week preceding by 3100 barrels and exceed state allowable by 11,730 barrels. Government recommendation was 7650 barrels lower than output.

California production dipped to 613,500 barrels, losing 18,800 barrels from the previous week but remaining 38,500 barrels ahead of state recommendation and 21,500 over federal forecast.

Oklahoma output surged to 451,600 barrels daily at a 15,225 barrel per day faster pace than the week preceding. Production as this rate was 23,600 barrels over the state allowable, but 21,700 barrels beneath bureau prediction.

Kansas yielded 171,025 barrels daily; a level relatively high for the state but only 1075 barrels higher than the week before. State allocation and bureau estimate were outrun by 14,175 and 18,325 barrels respectively.

Noteworthy among other area totals was the 8225 barrel increase in output from Southern Illinois new pools as they emerged from a temporary slump.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in April)	State Allowable in April	BARRELS DAILY FOR WEEK ENDED April 22	April 15
TEXAS—				
Texas Panhandle	.....	.....	63,050	73,050
North Texas	.....	.....	87,350	26,850
West Central Texas	.....	.....	31,950	32,950
West Texas	.....	.....	231,050	214,250
East Central Texas	.....	.....	106,050	105,450
East Texas Field	.....	.....	448,250	447,300
South Texas	.....	.....	258,650	229,350
Texas Gulf Coast	.....	.....	223,800	204,700
Total Texas	1,412,700	1,439,113*	1,450,150	1,393,900
CALIFORNIA				
Long Beach	.....	.....	50,000	49,800
Santa Fe Springs	.....	.....	27,800	28,800
Huntington Beach	.....	.....	30,500	30,200
Dominguez	.....	.....	20,300	21,500
Ventura Avenue	.....	.....	32,900	32,700
Midway-Sunset	.....	.....	58,400	57,000
Kettleman Hills	.....	.....	49,500	57,000
Wilmington	.....	.....	87,700	88,800
Others	.....	.....	256,400	266,500
Total California	392,000	575,000†	613,500	632,300
OKLAHOMA—				
Oklahoma City	.....	.....	104,475	101,675
Seminole Area	.....	.....	108,650	101,300
Fitts	.....	.....	29,800	28,350
Others	.....	.....	208,675	205,150
Total Oklahoma	473,300	428,000	451,600	436,375
LOUISIANA—				
North Louisiana	.....	.....	75,300	73,300
South Louisiana	.....	.....	194,350	193,250
Total Louisiana	262,000	257,920	269,650	266,550

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in April)	State Allowable in April	BARRELS DAILY FOR WEEK ENDED April 22	April 15
KANSAS—				
Burrton-Haven	.....	.....	8,700	8,625
Russell County	.....	.....	24,175	24,500
Silica	.....	.....	10,850	10,000
Others	.....	.....	127,300	126,825
Total Kansas	152,700	156,850	171,025	169,950
NEW MEXICO	115,300	109,700	110,950	111,050
MICHIGAN	48,300	.....	59,050	58,450
ARKANSAS	53,300	.....	52,650	53,375
MOUNTAIN STATES—				
Wyoming	50,000	.....	53,950	51,000
Montana	15,300	.....	14,450	13,650
Colorado	5,000	.....	3,550	3,700
Total Mountain States	70,300	.....	71,950	68,350
EASTERN STATES—				
Pennsylvania Grade	.....	.....	69,100	71,950
Southern Illinois (New Pools)	.....	.....	163,775	155,550
Illinois-Indiana (Old Pools)	.....	.....	9,910	10,130
Others, Eastern	.....	.....	29,500	29,450
Total Eastern States	254,100	.....	272,285	267,080
Total United States	3,434,000	.....	3,522,810	3,457,480

* Daily average, considering Sunday shutdowns, water exemptions, and seventh day exemption at Rodessa.

† Recommendation of Central Committee of California Oil Producers.

Pipe Line News

Rushing work on new line out of K-M-A field

Construction work on the additional 6-inch pipe line outlet for the K-M-A field recently authorized by Sinclair Refining Company, began April 17, and is due to be completed by May 20. Monarch Construction Company, Pampa, Texas, was awarded the contract for the laying of the welded line from the company's K-M-A field station thence 67 miles southeast to Hensley station, south central Jack County, where connection will be made with a looped system that extends via Mexia to Houston. Two gangs of workmen are being employed to expedite completion.

Sinclair Refining Company is to enlarge its K-M-A field gathering system by adding 10 miles of 4- and 6-inch gravity lines. An additional pumping unit will be installed at the field station, thereby giving the new line a capacity of 8000 barrels daily. Two intermediate stations to be added later will boost the ultimate capacity to 12,000 barrels daily.

Panhandle Refining Company has surveyed right-of-way for the construction of a 23-mile 4-inch crude line to extend from its Wichita Falls refinery to the west extension of the K-M-A deep field. The line will enable the company to handle its own production and outside crude purchases that are now delivered through a common carrier line.

Humble plans added outlet for West Texas areas

Humble Pipe Line Company is reported to be planning the construction of a 35-mile 8-inch loop from its Penwell-Judkins field station, Ector County, to Crane station, Crane County. The unit will parallel a system now in use, and will afford a greater outlet for active fields in Ector and Andrews counties.

Sinclair asks bids on line in North Texas

Request for contractors' bids for the laying of 15 miles of 6-inch welded crude line in Cooke County, North Texas, was issued by Sinclair Refining Company, pipe line division, last midweek by its Fort Worth district office. Construction work is scheduled to begin within 2 weeks. The new unit will connect a 10.6-mile 4-inch line, which was built last year from the Best pool, Walnut Bend sector, to a tank car rack near Gainesville, to the company's Ringling-Fort Worth 8-inch carrier near Muenster townsite. The latter interstate line was acquired from Pierce Petroleum Corporation in 1930, and is supplying Sinclair Refining Company's Fort Worth refinery with Panhandle crude.

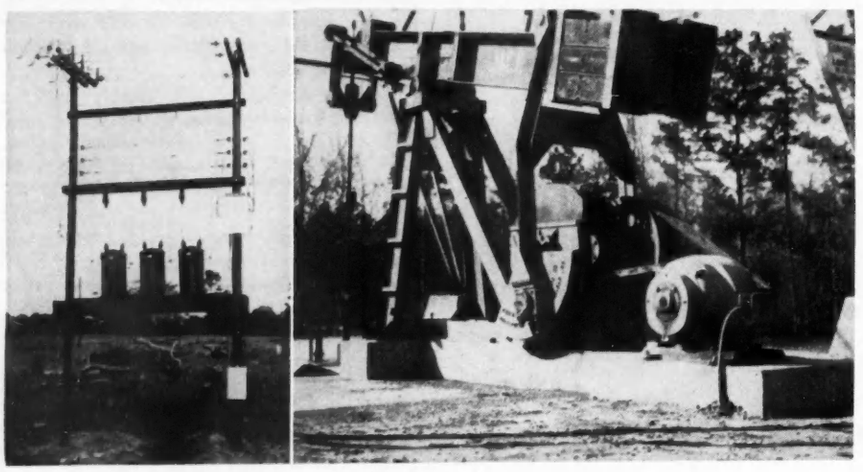
Short gas line

Lone Star Gas Company is surveying right-of-way for a proposed 17-mile natural gas line to extend from San Angelo to Sanatorium, where it will serve a state hospital, and to Carlsbad. The construction program calls for the use of 6-inch pipe, with a short section of 8-inch. The company's industrial market at San Angelo receives gas from the Big Lake field, and domestic consumers are supplied with sweet gas from Coleman County fields.

South Texas A.S.M.E. to hear S. M. Wechstein

The South Texas Section of the American Society of Mechanical Engineers will hold its regularly monthly meeting on Tuesday, April 25, at 7:30 p. m. in the conference room on the third floor of Sam Houston Coliseum in Houston.

S. M. Wechstein, chief engineer of the industrial division of Timken Roller Bearing Company, Canton, Ohio, will speak on the "Design and Application of Tapered Roller Bearings."



East Texas and Rodessa landmarks*...

*LANDMARK. Any conspicuous object characterizing a locality. Any event which marks a turning point.
—Webster

Webster might have been defining Purchased Electric Power in East Texas and Rodessa when he wrote the above definition for "landmark."

Such scenes as these of an electric powered pumping well and the field transformer station are certainly typical and characteristic of the locality. And the accessibility of high-lines to all parts of the field has definitely marked a turning point in additional Convenience, Safety and Economy for East Texas and Rodessa producers.

Low first cost. Low maintenance. Fewer accidents. Less fire hazard. Accurate records easily kept. Less shut-down time. All these advantages of Purchased Electric Power have been found by operating companies to be in their favor for LOWERING THE OVER-ALL COST PER BARREL OF FLUID LIFTED.

One of our engineers will be glad to show you how Purchased Electric Power can be fitted advantageously to your power problems in East Texas and Rodessa. Call us today!

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GENERAL OFFICES: Shreveport, La.

Mid-Continent A. P. I.

Large attendance attracted by interesting array of papers . . . C. H. Keplinger named chairman.

The spring meeting of the American Petroleum Institute, Division of Production, Mid-Continent District, was held in Oklahoma City, April 18-19. The sessions were featured by a heavy attendance and an interesting array of papers on subjects now claiming chief interest in the production department. C. O. Rison, Indian Territory Illuminating Oil Company, was general chairman of the meting, and T. J. Hamilton, Phillips Petroleum Company, was chairman of the program committee.

New Officers

Newly elected district officers of the A. P. I. Division of Production, Mid-Continent District, are as follows: C. H. Keplinger, chairman, Shell Petroleum Corporation, Wichita; T. J. Hamilton, vice chairman; H. V. Mathews, vice chairman, Stanolind Oil & Gas Company, Pampa, Texas; Henry Miller, vice chairman, Lario Oil & Gas Company, Wichita; and Herb Goodpaster, Kerlyn Oil Company, Oklahoma City, secretary-treasurer.

Advisory committee members are: N. M. Hutchinson, chairman, Cities Service Oil Company; Walter Biery, Sinclair Refining Company; H. L. Briggs, Coline Oil Company; Powell Briscoe; K. A. Covell, Pure Oil Company; C. A. Daniels, Phillips Petroleum Company; J. G. Dyer, Continetal Oil Company; W. W. Flemming, Ohio Oil Company; J. S. Freeman, Skelly Oil Company; F. W. Floyd, Carter Oil Company; Dan Gribben, The Texas Company; T. C. Johnson; Dewey Jordan, Atlantic Refining Company; R. C. Kay; R. S. Knappen, Gulf Oil Corporation; Don Knowlton, Phillips Petroleum Company; H. W. Ladd, Stanolind Oil & Gas Company; R. H. Lynn, Kerlyn Oil Company; Max Mahaffey, Cities Service Oil Company; Harbert McClain, Magnolia Petroleum Company; Everett E. Newport, Sinclair Prairie Oil Company; J. F. O'Shagnessy, Lario Oil & Gas Comany; H. N. Pardee, The Texas Company; W. G. Ricketts, Amerada Petroleum Corporation; A. S. Ritchie, McPherson Drilling Company; C. S. Warren, Cities Service Oil Company; H. E. Zoller, Shell Petroleum Corporation; and C. H. Keplinger as ex-officio member as district section chairman.

Abstracts of the papers follow:

Unitization—Its Progress and Future

By D. R. KNOWLTON
Production Manager, Phillips Petroleum Company, Bartlesville, Oklahoma

"Unitization" is a word that is being re-introduced to the oil business. The subject is too broad to be covered in a single paper or to be read in so short a time. From a contemporary, realistic viewpoint, the real need today is for the promotion or selling the idea of unitization with the admitted aim of making the entire industry "unit conscious."

The early history of unitization is centered almost entirely around one man—Henry L. Doherty. In a talk before the A.P.I. at Chicago in 1931, he made reference to an argument he had on the subject in 1895. We are now only beginning to appreciate fullv the wisdom of unit operation.

It is not difficult to understand why until the last 10 or 12 years operators were opposed to this plan. Oil men at the time were the most rugged of rugged individualsists, and the wildcatter's gambling spirit was thoroughly instilled in them. Considering this inborn gambling spirit; the fact that oil was about $3.50 per barrel; and there was a ready market for all of it; that taxes were low, and that wells were shallow; it is not surprising that little thought was given to conservation and co-operation.

Today the subject of unitization is not so controversial. The value can now be balanced with the scale of experience. We are in a better position to advocate widespread adoption of unit operation. Now we can go forth armed with examples and figures to substantiate their claims. We are constantly acquiring new information to add to that now on hand.

Despite the outstanding accomplishments achieved. it is surprising and regrettable that there are many companies and individuals who are passive on the subject and are not now using initiative in bringing about unit operation.

It is apparent that the oil industry, in order to make a reasonable profit at the present or slightly increased price of crude oil must drill fewer wells on wider spacing and substitute for this saving of wells a more efficient use of reservoir energy.

New Chairman

C. H. KEPLINGER
Production Engineer for Shell Oil Company at Wichita, Kansas

Plug-Back Work in Completed Wells

By R. B. McCULLAR
Division Manager Lane Wells Co.
Oklahoma City, Oklahoma

Plug-back work or what may be termed remedial or workover jobs are now occupying an important place in field operations. The practice of plugging back and working over wells to recover production behind the casing is as old as the oil industry itself.

The earlier methods in plug-back work are as a whole unsatisfactory. Many wells have been plugged and abandoned, although profitable producers in upper zones behind the casing. Since the days of those unprofitable workovers new methods have been discovered and successfully used.

The most common devices used are the gun perforator; mechanical rippers; nitro-glycerin, blasting gelatin or dynamite.

Plug-back work in completed wells falls directly into two classifications—plub-back in open or uncased holes and plug-back in cased holes. The following conditions necessitate open hole plug-back work in completed wells:

Bottom water encroachment in edge wells.

Water encroachment by channeling through more porous sections.

High gas/oil ratio.

Reconditioning of input wells for water drive or gas repressuring as an aid to secondary recovery.

Wells that sand up.

Conditions that stimulate plug-back work in cased holes are:

Wells that have become exhausted or declined in production beyond the economical limit.

Intrusion of water in quantities great enough to make further withdrawal impossible.

Plug-back work forced by operators of offset wells that have been plugged to higher zones.

Discovery of previously unknown commercial production by exploratory gun perforating technique.

To control water intrusion through gun perforatings in wells that have been completed by setting through the pay.

Cost of Oil Field Transportation, Based on Material Hauled

By BERT RICE
Bert Rice Trucking Company
McPherson, Kansas

Safety is in my estimation the most important factor in transportation. There isn't a person present who does not abhor an accident, and for that reason companies and employers spend large sums of money each year to avoid accidents.

In wanting definite knowledge of what it is going to cost you to transport certain materials from one location to another, you call your truck contractor and ask him for bids. If he thought you liked him pretty well, he would no doubt give you a higher price than someone who was trying to get the business away from him. Your company, wanting to get the material hauled as cheaply as possible, would give your business to the man you thought would haul it cheapest. I am not criticising when I say this because it is only natural to want to save mooney. But the cheapest price is not always the cheapest. I am a firm believer in the old saying, "You usually get what you pay for."

Methods and Application of Determining Well Potentials

By JOE HAELY
Corporation Commission of Kansas

The word "potential" is a much abused term. Its etymological derivation is from the Latin word "potens," meaing capacity to do or ability to produce.

Factors affecting a well's potential are acreage; spacing; bottom-hole pressure; porosity; permeability; size, shape and arrangement of sand grains; viscosity of the fluid or liquid; free gas and gas in solution; size of the flow string; amount of penetration in completion of well; artificial formation fracture through shooting or acid treatment.

The differential pressure draw-down method is now being employed in several pools in Kansas. Production index is the amount of barrels of fluid produced per day per square inch pressure drop at a specified subsurface datum. It is assumed that the basis of the productivity index is a straight line relationship. It is the belief of the writer that any deviation from this linear relationship is due to inaccuracy of the data assembled and not to the failure of the theory.

We have conducted tests on wells that showed volumetric efficiencies from 18 percent to over 200 percent. Polished rod length of stroke is meaningless when compared to plunger travel at high rates of speed. A speed of 40 strokes per minute is very common on physical tests. Two months ago an operator attained the speed of 51 strokes per minute.

Bottom-Hole Pumps

By S. B. SARGENT
Sargent Pump Corporation
Oklahoma City, Oklahoma

If we postulate the theory that reservoir energy is finite, it is axiomatic that this limited form of energy should be used solely to move oil from the formation into the well bore, and other external sources of energy should be used to move it from this point.

The problem involved is one of transferring liquid from one potential of energy to a higher potential in the most efficient manner. To accomplish this there are available four means of transmitting energy. They are the electrical system, the hydraulic system, the gas system, and transmission of energy through continuous steel members. General experience has been that the last method enumerated is one of the most efficient methods for the transmission of energy and there is little to indicate that there is any deviation from this general experience in the problem of producing oil.

The purpose of this paper is to discuss the sucker rod pumping system of production of oil and some of its inherent advantages. Fundamentally this system is one of the most efficient methods available for supplying the added energy necessary to raise oil to the surface. Gilbert has shown rod transmission efficiencies to be in the neighborhood of 75 percent.

At the time it becomes necessary to pump a well, there is often as much as a 50 percent shrinkage in the volume of a sample of oil, taken at the bottom of the well and the volume in a sample under atmospheric conditions. This shrinkage is due to the liberation of occluded gas. At the time this difference exists the mixture of oil and gas behaves as a liquid. It is therefore necessary to provide excess pump capacity during this period to produce the enlarged volume of oil due to gas in solution.

The conclusions to be drawn from this general study of sucker rod pumping are, first, that this method of production is and can be widely applied; second, that a study of the problem of the individual well under consideration will materially improve its operation; and, finally, the method is one of the most practical and economical in a large number of installations.

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Where Are We Going from Here?

By J. H. SAVAGE
Mid-Continent Petroleum Corporation

A drunken driver who thought he saw a bridge coming down the road at a terriffic rate of speed, turned out to let the bridge go by and suddenly found himself upside down in a ditch. He thought he was going in the right direction, as he saw the situation—but he wasn't seeing things through the right perspective.

Safety in a few years rushed through several stages. First came guarding of machine's danger points. This expanded into a more comprehensive phase of engineering revisions with the idea of eliminating the serious accidents. The accident prevention program of the days of 1914-1920 had its enemies who hollered about it's keeping down production. But these enemies were for the most part silenced by results where safety work was in the hands of level-headed men.

The workman in the rank and file class has been generally easy to convert to the safety idea. Down in his heart he realized he was the biggest loser when conditions or methods were not safe.

We must prepare to play our part as a unit of the whole, rather than a unit to ourselves. Through the larger understanding and appreciation that we will develop industry will be freed from the burden of unnecessary accident costs, and individual workers saved from financial loss now resulting from accident.

The Value of Threads in the Oil Field

By MIKE W. BIRMINGHAM
Phillips Petroleum Company
Oklahoma City, Oklahoma

To material men threads are difficult, especially in determining the pitch, lead, and taper and whether it is necessary that they be chamfered. The following are the names of the individual thread systems:

The square thread system.
The rolled thread system.
The national hose thread.
The S. A. E. thread system.
The buttress thread system.
The sharp V thread.
The U. S. S. standard thread form.
The acme thread form.
The American standard pipe thread.
The A. P. I. drill-pipe threads.
The Whitworth system.

The most interesting conversation you can have over the telephone is trying to explain to a man who has not taken the opportunity to familiarize himself with the later changes in pipe threads.

Economical Power for Artificial Lifting of Oil

By W. H. STUEVE
Commercial Agent in Charge of Oil Field Electrification, Oklahoma Gas and Electric Company
Oklahoma City, Oklahoma

It is well known tht in past years most of the oil has been produced by beam pumps, after the reservoir pressure was reduced to such values as would tend to stop the natural flow of the wells in a given oil field; and today this practice is followed to a great extent. However, in certain fields bottom-hole pumps actuated by electric or hydraulic power have come into use. The types of equipment selected for producing wells are principally based on the allowable volumes and in turn coupled with the depth of the producing horizon.

Electric power may be generated on the lease or it may be purchased at the lease site. The choice of the source of such electric power supply depends on a great variety of circumstances, and can be enumerated as follows:

(a)—Size and characteristics of the contemplated load.
(b)—Value, nature and amount of fuel available.
(c)—Factor of water intrusion in the producing horizon and normal decline of the contemplated oil field.

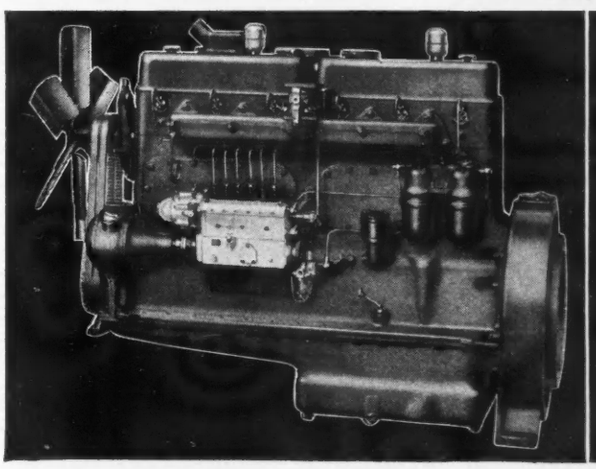
Thus it may be concluded that all fields are subject to decline and all generating plants installed to produce oil are subject to the same rule and have gradual diminishing need for capacity.

Butane

By H. E. CHAMBERS
Skelly Oil Company
Lyman, Oklahoma

In the manufacture of natural gasoline the gasoline as taken from the casinghead gas is a very wild or unstable gasoline; that is, there would be considerable and rapid loss by boiling

The New
SPARK DIESEL



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160 hp. TO 200 hp.

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Patented Non-Stick Piston Rings; Full Pressure Oiling
and the famous Hesselman fuel injection system

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OIL WORLD EXPOSITION, Houston, April 24-29

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WAUKESHA MOTOR COMPANY
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and evaporation at atmospheric pressure and temperature. In the first days of natural gasoline plants the process of stabilizing this gasoline consisted in eliminating enough of the propane and butane so that the gasoline would pass specifications for shipping.

Butane being a waste product in those days, it was to the natural gasoline manufacturer's advantage to include as much of it as possible in his gasoline and still meet specifications. The natural gasoline could then contain about 35 percent butane. As the refiner became more efficient in saving lighter vapors from his processes and installed vapor recovery plants, his demand for butane included in the natural gasoline decreased.

In small town gas distribution systems, butane was vaporized and mixed with air to give a gas of about 550 B.t.u. per cubic foot heating value. Butane was also used for enriching manufactured gas.

There is considerable use of butane in internal combustion engines in many installations. In some cases drivers of trucks have reported better mileage from butane.

Butane itself is odorless, and a stench often is added to aid in locating leaks. There is an increasing demand for butane as feed for polymerization plants to convert it to iso-octane. There have been a great number of underground systems installed for farm home use, for country homes, or in towns where natural gas is not available.

Houston chapter of Safety Engineers is chartered

A charter has been issued by the American Society of Safety Engineers, Engineering Section, National Safety Council, to the recently organized Gulf Coast chapter of the society.

Object of the chapter shall be to promote the arts and sciences connected with engineering in its relation to accident prevention and the conservation of life and property, and to encourage the development of safety engineering as a profession.

Officers and members of executive committee include: V. R. Currie, The Texas Company, general chairman; J. J. Delahide, B. F. McDonald Company, vice chairman; R. G. Naul, Hughes Tool Company, secretary-treasurer; R. B. Roaper, Humble Oil & Refining Company; C. L. Hightower, United Gas Pipe Line Company; Charles A. Miller, The Texas Company; J. E. Niland, Humble Oil & Refining Company; T. S. Maffitt, Jr., Houston Oil Company.

Kindsvater to talk on oil field equipment corrosion

E. F. Kindsvater, research engineer for Phillips Petroleum Company at Bartlesville, Oklahoma, will talk on 'Corrosion of Oil Field Equipment before a joint meeting May 5 of the Wichita, McPherson and Western Kansas chapters of the American Petroleum Institute in Lyons, according to Herbert Loy, secretary of the latter chapter.

Gas School

Attendance records are smashed at Southwestern Gas Measurement Short Course . . . Open forum discussions are adopted at many of the sessions.

Attendance records were broken at the Southwestern Gas Measurement Short Course held at the University of Oklahoma, Norman, April 18, 19 and 20, with a total enrollment exceeding 550. Fay C. Walters, superintendent of measurement, Panhandle Eastern Pipe Line Company, Kansas City, was elected chairman of the 1939-1940 general committee, succeeding Past Chairman L. G. Rheinberger, superintendent of measurement, Sinclair Prairie Oil Company, in charge of the course now over. Fay Walters, prior to his new post, served on the general committee as program chairman. Before going with Panhandle Eastern Pipe Line Company, he was in charge of measurement for Oklahoma Natural Gas Company, Tulsa.

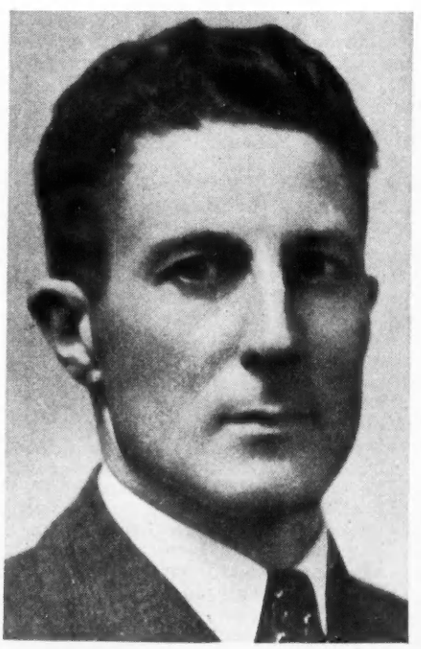
This year's conference was the fifteenth annual course offered under the sponsorship of the College of Engineering, University of Oklahoma, with the assistance of the Corporation Commission of Oklahoma, Railroad Commission of Texas, Kansas Corporation commission, Oklahoma Utilities Association, natural gas section, American Gas Association, and Natural Gasoline Association of America.

Of the total enrollment, less than 50 students were entered, to set a record for the course. Despite the fact that lectures and discussions were held concurrently in various rooms of the Engineering building, the number of company representatives present taxed the facilities of the school. However, Dean W. H. Carson of the College of Engineering has been assured of future construction sufficient to adequately care for future gas conferences, other short courses offered, and the regular full time enrollment of the 1600 students. In conjunction with this he hopes to centralize petroleum engineering equipment now housed in various units of the school.

New Chairman

FAY C. WALTERS
Superintendent of Measurement, Panhandle Eastern Pipe Line Company, Kansas City

Past Chairman



L. G. RHEINBERGER
Superintendent of Measurement, Sinclair Prairie Oil Company, Tulsa

The course this year presented much of the data in the form of open discussions, a manner of presentation not carried so far in previous years. Leaders, with specific knowledge of the subjects to be treated, were assigned to lead talks and to advise on problems. These discussions were open to the floor at all times, and proved an interesting and desirable means of presentation.

All members of the general committee were reelected. Additional new

members are to be selected at a meeting scheduled for October. Exact time and place for this meeting is to be announced at a later date.

The program began Tuesday, April 18, with an enrollment of more than 400 present to begin the course. General assembly in the Auditorium of the engineering building was presided over by Chairman L. G. Rheinberger, head of gas measurement for Sinclair Prairie Oil Company, Tulsa. In his welcome to the men coming from all parts of the country and Mexico, he briefly traced the history of the School, pointing out the important part it is playing in advancing and disseminating gas engineering knowledge.

Dr. M. L. Wardell, assistant to Dr. William Bennett Bizzell of the University who was unable to personally attend, gave the address of welcome. In it he outlined the present international situation, spoke concisely upon present world-wide trends. He described the University and the function of campus buildings. Following Dr. Wardell's talk, Chairman Rheinberger introduced the general committee responsible for the continuance of the short course.

William F. Lowe, secretary, Natural Gasoline Association of America, presented a verbal view of the natural gasoline industry today, its development and present status. Lowe expanded his subject to point out the many uses of natural gas and natural gasoline in the manufacture of unusual chemical substances. He dwelt upon the growing number and variety of these products and their relation to the gas engineer and the natural gasoline and gas industries.

Employee Training

E. H. Poe, secretary, Natural Gas Section, American Gas Association, had as his subject, "Three Hours a Week." He explained the great amount of effort various gas firms are making to thoroughly train their employees not only in the production and handling of natural gas, but likewise in the distribution and sales of both the delivered product and equipment necessary to its use. Much of this work falls under the head of public relation for there is much that the gas man must do to appraise the public to a more complete appreciation of the benefits of this nationally used resource. He also mentioned the increased number of companies holding some form of school based upon increasing the value of the employee to his firm, and mentioned schools and universities in which such courses have been made a part of the training. A bound booklet covering the companies having education features and universities offering this type of course was made available to the engineers at the conference.

The morning session was closed by the report of the committee for study of practical methods with Earl Kightlinger, Arkansas Louisiana Gas Company, as spokesman. In regard to the report, which was on pilot operated regulators, the committee submitted that more time was required before a finished report could be submitted.

Discussions and papers were in order during the afternoon session, these being given concurrently in various rooms of the building. Domestic meters was the subject of a talk by Art. F. Benson, American Meter Company. In

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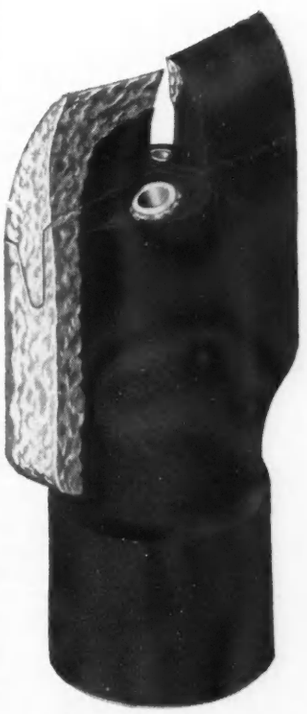

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this he described the common domestic meter of today, telling of the improvements made to the former types. He explained in detail both its construction and operation, and degree of dependability. Large capacity displacement meters was discussed by W. R. McLaughlin, Pittsburgh Equitable Meter Company, who explained construction and operation of the larger positive meters in common use at substations, some town border setups and wherever large volumes of comparatively low pressure gas is to be measured.

E. H. Triphaus, Taylor Instrument Companies, described recording and controlling instruments applicable to gas measurement and regulation, detailing their wide application and increased use in gas systems. Their engineering design and functional features were described.

Field Meter Men

Functions of field meter men was the subject of J. D. Killough, United Gas Pipe Line Company. He outlined briefly the work requirements of the meter man and pointed out how in addition to sustaining a high degree of accuracy in measurement, he can be of direct aid to his firm. E. F. Dawson, The University of Oklahoma, spoke on the problems of elementary gas laws. It was pointed out that these laws are not always what prior basic laws would have us believe, but he established mathematically the laws governing gas measurement and behavior. K. R. D. Wolfe, Fisher Governor Company, explained at length and in detail booster regulators of the differential, upstream and temperature types. A. D. McLean, Pittsburgh Equitable Meter Company, explained the construction and operation of the orifice meter, illustrating his points. He explained the function of the orifice in creating a differential, and how this and the pressure were recorded upon the chart through the mechanism of the instrument, to allow computation of gas volumes passed at the recorded pressure.

Large capacity displacement meters were discussed by Hilding Beck, American Meter Company, who pointed out meter construction details and explained the functioning of each part during operation.

A paper and round table discussion resulted from "Measurement and Regulation of Production from Unusually High Pressure Gas Wells," by C. E. Webber and J. J. Carter, both with Humble Oil & Refining Company. This paper was divided into two parts, the first of which concerned the measurement of dry gas under high pressure conditions; the second concerned measurement of wet gas under high pressure conditions. It was pointed out the two were entirely different problems and that whereas most of the difficulties experienced in wet gas measurement at high pressures were not present in the measurement of dry gas. It was shown that high pressure measurement of dry gas is possible through the use of normal methods, although the problem of correction gas law deviations from a true gas are amplified by pressure, and that this fact must be taken into consideration to gain relative accuracy of measurement.

Wet gas, it was shown, presents problems not to be encountered in handling of dry gas under similar pressures. The high pressures considered, and with which numerous tests had been conducted, ranged from a few pounds to more than 5000 pounds per square inch. The authors detailed pressure and temperature reactions of the gas to change physical characteristics, and offered means and formulae for counteracting these changes resulting from high pressure. They outlined a method of measurement now proving satisfactory in a system repressuring gas at 3500 pounds in which the volumetric capacity of the compressors is being used as a displacement meter through the aid of counters expressing each compression. They also told of various methods which may be used to aid the engineer handling wet gas under high pressures and described well and line measuring equipment suited to the particular task. A number of references were given to prior art on the subject of this investigation and to a kindred and closely affiliated subject, retrograde condensation.

L. H. Cherry, The University of Oklahoma, detailed the operation of the flow calorimeter. He explained its use in a gas system and the manner in which it recorded the heat value of the transmitted flow.

Low pressure regulators was the subject of J. J. Delaney's talk, American Meter Company, who outlined the operation and construction of the units and briefed their use where low pressures are required. He told of their operation and manner of keeping them in proper condition. L. K. Spink, The Foxboro Company, spoke on orifice meters, their means of interpreting a gas flow, and manner of transmitting flowing constants to the chart. G. M. Arnold, Cutler-Hammer, Inc., detailed the operation of the recording calorimeter, one of which was on display. He told the means to gain a Btu expression and of the measurement requirements of the gas to be tested. Chart integration was the title of a talk by J. L. Cottrel, Pittsburgh Equitable Meter Company, who described the means of reducing chart recording to actual feet of gas passed.

Lane Ferguson, Cities Service Gas Company, spoke on the value of back pressure tests of gas wells. In this the speaker outlined the method used to measure the capacity of a well to produce; tested gas flow being directed into the gathering system without loss. By this means the well is not opened to the atmosphere, a function which many engineers hold to be detrimental to the pay strata. Ferguson explained the method of gauging and the equipment arrangement. H. A. Kahler, The Sprague Meter Company, outlined the care and maintenance of domestic meters. He told of common trouble, how to prevent it, and the best manner of correcting domestic meter trouble once it develops.

Rotary positive displacement meters were described by F. F. Bogardus, Roots-Connersville Blower Corporation. This type of meter makes use of two revolving cam-like impellers, opposing each other in such a manner that their surfaces constantly are in contact. The spaces between the walls of the mechanism and the impellers form the measuring chambers. The unit operates at a very slight differential and contains a minimum of parts.

Hilding Beck, American Meter Company, gave a discussion on domestic meters of advanced design, outlining their operation and use. A demonstration of regulator repair was made by Wm. R. Shiperly, Chaplin-Fulton Manufacturing Company. Illustrating his talk with a model, he told of the manner in which repairs were made and new parts installed to the best future service.

Ralph C. Hughes, Reynolds Gas Regulator Company, spoke on gas regulation and the regulator, explaining the various uses and means of control by regulator. He also detailed the construction of the units and explained their operation. Low-pressure regulators was the subject of a talk and discussion by W. R. McLaughlin, Pittsburgh Equitable Meter Company. In this the speaker told of the construction of the unit and of more recent improvement adding to the dependability of the low-pressure regulator. C. L. Bryan, The Foxboro Company, spoke on pressure controls and their use. He told of the increased application of the units now offered the gas engineer.

Care and operation of orifice meters was a paper by T. S. Whitis, West Texas Gas Company. The author outlined the common difficulties experienced by the meter man in keeping his meters in the most accurate measurable condition, and explained how to overcome maintenance problems. He explained the working of the meter, the correlation of the parts and their ordinary limitations resulting from field conditions. In concluding he explained field methods of keeping the meter in the best possible condition with testing and examination aided by a calibration test.

E. J. Turner, Sinclair Prairie Oil Company and W. H. Woods, Gulf Oil Corporation, presented a paper and gave a round table discussion on "Problems of Wet Gas Measurement." The paper pointed out that measuring of wet gas presents all the problems of dry gas measurement, plus a few peculiar to wet gas. These were pointed out as being pulsation, dirty orifice plates, liquid in meters, against plates and in manifolds, leaks in piping, accuracy in the determination of specific gravity of wet gas, the accumulation and removal of condensation, regulation, and the deviation from Boyles' law. Other problems related to those mentioned as primary result from wet gas. These may be due to temperature changes producing a condition not expected, freezing of fluid and condensate within the lines, orifice plate and meter manifold, and control of the gas stream flow. New facts regarding wet gas measurement were brought out in this paper through its presentation.

H. F. Goodenough, Refinery Supply Company, presented talks on the gravity balance and the gravitometer. He explained their operation of systems and their method of control. In addition, he detailed the use of dew-point apparatus set up as used in the field. Dan Yarberry, The Dallas Gas Company, talked on meter shop practice. He told of practical means of shop operation and of the handling of reconditioning jobs. His work, having been directly in this line, qualified him as a spokesman. Meter shop practice is a major item in assuring continuous and trouble-free measurement. W. R. McLaughlin, Pittsburgh Equitable Me-

ter Company, explained the functioning and construction of high-pressure regulators. He explained the manner of manufacture and the part each unit played in regulating the flow of gas.

Gas accounting practices by C. V. Johnson, Phillips Petroleum Company, explained the bookkeeping end of the gas industry. He tied this in with the work of the field man, outlining the importance of gas accountancy to successful operation of any system. Modern means employed and the steps necessary to compute volumes and office routine were discussed. P. A. Borden, The Bristol Company, outlined the part that remote measurement and control instruments are playing in the field end of the gas industry. This branch of gas engineering is a development of the past few years, although many of the controlling devices are in service doing a great variety of tasks. He explained the instruments and their use. Obtaining performance from regulators was a talk by C. E. Terrell, Southern Natural Gas Company. In it he detailed common ills of the regulator. He told of the best manner of assuring satisfactory operation and detailed means of repair. The bell prover was explained by A. F. Benson, American Meter Company, who explained the construction of the unit and how it was used to test meter accuracy.

A round table discussion on operation and maintenance problems for meter men was well attended with L. F. Carter, Colorado Interstate Gas Company, leading the discussion, being assisted by T. R. Roberts, Oklahoma Natural Gas Company, George Greiner, Phillips Petroleum Company, and E. S. Doerr, Lone Star Gas Company. The discussion was at all times open to questions from the floor, any problem brought up being the subject treated.

An inspection of the laboratories at the University was made available to all. During this certain phases of meter testing were in progress and witnessed.

Ralph C. Hughes, Reynolds Regulator Company, spoke on fundamental principles of regulators, going into the mechanics of gas flow and the application of the controlling device to this service. R. L. Huntington, The University of Oklahoma gave an interesting paper on the behavior of gases under abnormal conditions. In his talk he assumed gas conditions not ordinarily present in the field or transmission system, and outlining these, he showed how they could account for unusual occurrences. He told how gas, not being of unit composition, reacted in an irregular or varied manner under certain conditions of pressure and temperature. These variations from normal were fully explained.

D. H. Tucker, El Paso Natural Gas Company, talked on an important phase of gas control, the determination of line losses in high-pressure systems. B. F. Worley, United Gas Corporation, on the same subject, outlined means of determining losses in low-pressure systems. Orifice meters and rate volume control was given by A. F. Benson, American Meter Company, and Ed Gilmore, Pittsburgh Equitable Meter Company, spoke on domestic meters.

Pilot operated regulators, by Earl Kightlinger, Arkansas-Louisiana Gas Company, detailed this unit and means of gaining the most dependable operation. He explained how it functioned and from this developed its use. L. J. Griffey, Hanlon-Waters, Inc., talked on control problems as effected by the design of regulator, and regulator bodies. He emphasized the fact that body design has much to do with dependable operation. Jas. L. Griffin, Northern Natural Gas Company, spoke on the relation of appurtenant equipment to primary measurement. He discussed the many vital parts of a gas system not ordinarily encountered in measurement, but nevertheless being closely related to gas control, transmission or measurement.

Thos. H. Thorn, Chaplin-Fulton Manufacturing Company, explained the construction of regulators, and A. F. Benson, the large capacity meters and critical flow provers. Helpful hints on the installation and operation of regulators was an interesting subject by Chas. D. Peterson, Fisher Governor Company. J. E. Overbeck, Columbia Engineering Corporation, spoke on the effect of pulsating flow on orifice meter measurement of natural gas. H. A. Kahler, Sprague Meter Company. talked on large capacity displacement meters and regulators. The determination of specific gravity of gases was a talk by H. L. Oder, Cities Service Oil Company. Low pressure regulators was a talk by A. D. McLean, Pittsburgh Equitable Meter Company. The operation of the slide rule and the special slide rule made especially for the gas engineer was the subject of a discussion by Edgar E. Ambrosius, of the University of Oklahoma.

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The Oil Filter

Illinois

[*Continued from page 243*]

itself. We can't produce enough oil in Illinois to break the market."

Hayden B. Davis, Springfield, suggested that the committee send members to Texas and other states where proration has been in effect to learn its effect, not alone on oil but on business in general. He said that the legislature was under no more obligation to regulate oil output than to regulate output of other commodities.

"Leave the oil producer to his own ability and his own devices in finding his markets," he advised. "If he goes broke that is tough but not the responsibility of the state."

Roy Benoist, Mt. Vernon, said, "Let the independents alone. This situation will straighten itself out."

W. R. Miller, Mattoon, said the state needed a spacing regulation and a law to compel offset drilling within reasonable time but did not need proration.

J. J. Taxman, Advance Refining Company, Centralia, said his concern had been paying 62 cents per barrel for oil, plus 10 cents transportation, and was shut down for lack of oil. He had offered 90 cents per barrel for oil. He explained that a skimming plant can not recover sufficient finished products from a barrel to recover costs of processing.

A. F. Grohe, Centralia Refining Company, said he would consider addition of a cracking unit to his skimming plant if he could be assured an oil supply which he thought proration would leave unavailable.

John Pugh was frank in his testimony saying "I'm interested in the price. I don't see how we can maintain the price without regulation."

He said his observation had been that independent producers would get financial assistance when fields are under regulation.

H. M. Stalcup, vice president, Skelly Oil Company, Tulsa, outlined three basic principles of a conservation statute as prevention of waste, above ground, under ground and economic waste; protection of correlative rights, ratable taking; stabilization, which he said did not imply price regulation.

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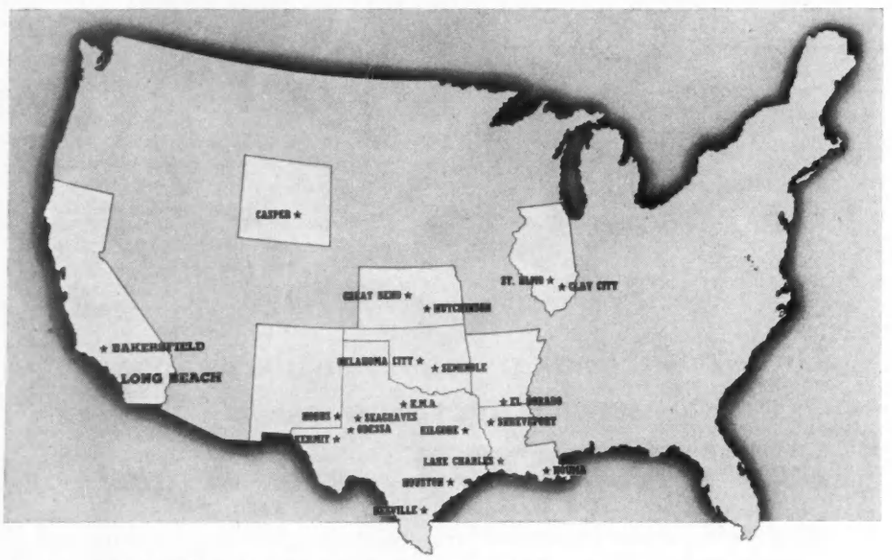

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Transport men to meet at exposition

During the Oil-World Exposition at Houston, Texas, the Motor Transportation Division will hold a two-day meeting in the Assembly Hall of the Chamber of Commerce Building. The meeting will start at 10:00 a.m., Tuesday, April 25, and will close with a banquet at the Houston Club Wednesday evening.

After being called to order by Leo New, chairman, an opening address will be delivered by John R. Suman, president of the Oil-World Exposition and vice president of Humble Oil & Refining Company. This will be followed by papers on "What Motor Transportation Means to the Oil Industry," by R. H. Hargrove, vice president, United Gas Pipe Line Company; "Texas Legislative Problems," by Frank Johnson, Texas Motor Transportation Association; "The Advantages of Motor Transportation Department to Fleet Operators," by J. F. Winchester, Standard Oil Company of New Jersey; "Motor Vehicle Operation in the Illinois Field," by Leo Huff, Pure Oil Company, Chicago; and "Rules and Regulations of the Motor Carrier Act," by Hon. John Rogers, Commissioner of Interstate Commerce Commission, Washington, D. C. This will conclude the technical discussions and the day will close with a moving picture by American Airways.

Wednesday Meeting

The meeting on Wednesday will open by an address by Chase E. Sutton, general manager, Gulf Coast Division, Pure Oil Company. Papers then to be presented will consume the morning and will consist of "Manufacturers' Viewpoint," by J. N. Bauman, executive vice president, White Motor Company, Cleveland, Ohio; "Nuts," by Roy Fike, Mid-Continent Petroleum Corporation, Tulsa, Oklahoma; and "Safety in Operations," by C. L. Hightower, safety director, United Gas Pipe Line Company. Wednesday afternoon will be spent by members visiting the equipment displays of the Oil-World Exposition in a group.

The presiding officer at the banquet will be General Walter P. Pyron, vice president, Gulf Oil Corporation. The speaker of the evening will be Ted V. Rogers, president, American Trucking Association, Washington, D.C.

WEEK'S DRILLING HIGHLIGHTS

Michigan

Traverse lime saturation in an outpost indicates a possible 1½-mile south extension for Grandville pool, Kent County. In the field proper interest was aroused when six feet of Berea saturation yielded a small amount of oil before the well could be cleaned out.

South Louisiana

St. James Parish got another field a wildcat on La Pice prospect produced gas and distillate and registered the highest pressure on record in the ditsrict. Eola, Avoyelles Parish, was extended northeast. A new gas and distillate sand was found at North Tepetate, Acadia Parish, a field which also chalked up a 38-gravity completion in a sand that has been yielding 50- and 55-gravity distillate. New Iberia got a new sand at 8970 feet, deepest for the field. Eleven sands were tested at one time in a Fausse Point well.

California

Three wells slated for immediate completion apparently have opened a new deep sand for the east end of West Montebello extension.

West Texas

A minor extension of the extreme east portion of Wasson logged 130 feet of saturated lime with good porosity. Two miles northeast of Bennett production a wildcat has plugged back for completion. High gravity oil showing in Marble Falls lime promises Hamilton County its first oil field.

Rocky Mountain States

Leo sand production in Lance Creek, Niobrara County, Wyoming, got a minor extension north, starting a deepening campaign on six shallower producers. Sage Creek, Fremont County, has a deep test preparing to test likely shows.

North Texas

In the west central part of Clay County a wildcat logged Strawn saturation to indicate a new pool slightly north of Halsell settlement. A well in the Hull-Silk pool of Archer County flowed 165 barrels in 2 hours. An important Montague County wildcat entered the abandoned list.

Southwest Texas

Jim Wells County accounted for 2 new fields, a new sand and an extension. The fields were southeast and northwest of Alice, the former a Frio sand proposition, the latter a Yegua zone discovery. Clark field was extended a mile by a test which also found a new Vicksburg sand at 5330 feet. The discovery well of a new pool west of Alfred in Jim Wells County rated 135 barrels of 45.2 gravity oil. Southeast of Longhorn production in Duval County a new field is indicated at 5967 feet. White Creek, Live Oak County, is in line for a 3500-foot extension southwest.

New Mexico

On the east edge of Lovington production a well made 40 million feet of either air or non-inflammable gas. A well at the junction of Langlie and Mattix flowed 150 barrels, while another at the junction of Eunice and Monument made 10 barrels hourly.

Texas Gulf Coast

Turtle Bay of Chambers County, supposedly defined by previous drilling, was extended over a mile east. Ace, Polk County, marked up the second Wilcox producer. Near Palacios, a Matagorda County wildcat showed possibilities of commercial production.

Oklahoma

A small pool was opened near Newalla, Oklahoma County, when a wildcat flowed 241 barrels. Little River, Seminole County, apparently has a ¾-mile extension. A new horizon for Crescent pool, Logan County, appears capable of 190 barrels per day. On the west flank of Billings, Noble County, a test established a potential of 4968 barrels and plenty of gas.

Comparison of Permits Granted for New Wells

STATE	Week Ending April 22	Total this Mo.	Total this Year	Total this Date Last Year	1938 Year Total
Arkansas	5	11	59	76	247
California	22	72	328	401	1,146
Louisiana	*	43	323	396	1,214
Kansas	29	72	388	525	1,453
Michigan	27	68	329	209	953
Oklaloma	39	119	603	648	1,978
Texas	177	589	3,310	4,591	12,369
Total	299	974	5,340	6,846	19,360

* Not available: approximately 23.

Summary of Wells Completed in the United States Week Ending April 22, 1939

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1939	Total This Date 1938
Alabama	....	....	....	....	.....	1	1
Arkansas	4	3	....	1	866	67	71
California	19	15	....	4	10,301	328	361
Colorado	2	....	....	2	.....	9	3
Florida	....	....	....	....	.....	....	....
Illinois	91	63	1	27	23,481	1,165	223
Indiana	3	2	1	....	40	38	35
Kansas	27	19	1	7	21,012	366	588
Kentucky	15	7	1	7	400	195	209
Louisiana	14	8	....	6	2,560	294	321
Michigan	19	8	....	11	3,707	365	258
Mississippi	....	....	....	....	.....	1	7
Montana	7	4	1	2	61	35	19
Nebraska	....	....	....	....	.....	....	....
New Mexico	10	9	....	1	4,413	190	166
New York	9*	8*	1	....	28	153*	172*
Ohio	10	1	7	2	30	239*	295*
Oklahoma	31	22	1	8	10,038	588	672
Pennsylvania	30*	25*	4	1	30	378*	772*
Texas	149	107	5	37	59,519	3,023	4,098
Utah	....	....	....	....	.....	....	....
West Virginia	6	....	3	3	.....	153	264
Wyoming	....	....	....	....	.....	47	31
Total this week	446	301	26	119	136,486	7,635	8,567†
Total last week	447	309	30	108	155,891	7,189	8,168
Total this year	7,635	5,237	532	1,866	.....	....	.....

* Includes water-input wells. † Includes one Tennessee completion.

Oklahoma Fields

Oklahoma County wildcat flows 10 barrels cut oil hourly. Little River extension test has 1200 feet oil in hole.

Tulsa.—Field work for the state during the past week was highlighted with the Newalla discovery still flowing, a test west of Little River pool, Seminole County, showing for a possible extension, and scattered wildcats testing for commercial production.

Olson Oil Company's White 1, C NE NE 30-11-1e, small pool opener near Newalla, Oklahoma County, on the first 24-hour test flowed 241 barrels cutting 14 percent drilling fluid and water. Later it continued to flow regularly at 10 barrels per hour cutting 12 percent water. The wildcat topped saturated Hunton lime at 6002 feet, drilling on to find the first and second Wilcox sands dry at 6503 and 6610 feet respectively. After plugging back to Hunton lime, 6-inch casing was landed at 6001 feet and drilling proceeded to 6100 feet. Operators plan to acidize before final completion. Kerr-Lynn Oil Company et al's Olmstead 1, C E½ SE NW 12-14-3w, 4 miles north of Edmond, Oklahoma County, was drilling below 5115 feet after checking 40 feet high on Layton series.

Atlantic Refining Company's Jimmy 1, SE NW NE 21-7-6e, Little River, Seminole County, three-quarter-mile west of production, is showing 1200 feet of oil from drill-stem test at 4417 feet in Wilcox sand. Other activity for the county includes Culber & Shepherd's Burton 1, SW NW SE 3-5-5e, a wildcat 2½ miles northeast of the Wetley pool, now drilling ahead after setting surface pipe at 91 feet. West Fish pool is adding another producer in The Texas Company's Eliza 2, SE NW SW 19-7-8e, which swabbed 80 barrels in 8 hours at 4110 feet, the test now drilling below 4135 feet in dolomite topped at 4087 feet.

Logan County's test for a new horizon in Crescent pool, Gulf Oil Corporation and Carter Oil Company's Knowles 1, C NW NW 34-17-4w, which plugged back from 6296 feet in Wilcox sand and perforated Layton zone at 4890 to 4925 feet, was heading 95 barrels in 45 minutes, making 1 or 2 heads per day. Sinclair Prairie Oil Company's Crews 2, NE SW NE 27-16-1e, Meridan pool, flowed 360 barrels in 24 hours from Wilcox sand topped at 5174 feet and bottomed at 5207 feet, to fill tankage.

Phillips Petroleum Company and Shell Oil Company's Harbison 2, SW NW SW 22-23-2w, on the south edge of production on the west flank of Billings pool, Noble County, established a daily potential of 4968 barrels of oil and 3,680,000 cubic feet of gas after drilling through Wilcox sand from 4298 to 4332 feet.

Phillips Petroleum Company's Culbertson 1, NWc SE 4-1n-5w, Stephens County pool opener, previously flowing 300 to 400 barrels daily from 5606 feet in Deese sand, was deepened to 5620 feet and shot with 90 quarts of explosive. The crew is cleaning out in the expectation that production would be increased.

Brown pool, recent discovery for Garfield County, had a start in Max Kelly's Looman 1, NEc SE 9-20-4w, southwest of Hughes Drilling Company's Meisner 1, now flowing 170 barrels per day from Wilcox sand topped at 5915 feet and drilled to 5944 feet. Two drilling wildcats for the county include Continental Oil Company's Luedeman 1, C SW NE 2-21-4w, southwest flank of Garber structure, was drilling below 5515 feet seeking a new deep horizon. Kerr-Lynn Oil Company et al's Heims 1, NWc 36-22-4w, set surface pipe and was drilling.

Lincoln and Pottawatomie counties drew 6 wildcat starts with operators trying for Prue sand in the Sac and Fox area, Lincoln County, and two wildcats seeking Wilcox pay in Pottawatomie County. They include Fain Drilling Company's Wertman 1, SWc 12-15-4e, 5 miles north Chandler pool; Villines et al's Marshall 1, NW NE NE 28-15-4e, 3 miles north Chandler pool; Cooper Drilling Company's Johnson 1, NEc NW 32-15-5e, 2 miles northwest Davenport pool and Roy Starr Oil & Gas Company's Morrow 1, SEc SW 28-15-6e, 1½ miles southwest of Stroud pool.

Indian Territory Illuminating Oil Company et al's Lambert 1, C E½ NW NE 6-5-2e, a tri-county Wilcox test in southwestern Pottawatomie County bordering Cleveland and McClain counties and north of Canadian river, was moving in materials. Location has been staked for Strawn 1, SEc SW 32-8-5e, by F. W. Cooper, being between Greater Seminole area and Maud pool. Arbuckle lime pay is being sought in Denver Production & Refining Company's Louck 1-A, SE NW NW 1-6-4e, southeast Seminole district, which was previously completed as a dolomitic producer, now is drilling below 5775 feet, having topped second Wilcox sand at 4282 feet.

A new gas horizon for Creek County was near as Burke-Greis Oil Company's Vanderslice 1, NEc SE 30-14-7e, 3½ miles south of Stroud pool, topped Prue sand at 2829 feet and drilled to 2891 feet. After shooting with 40 quarts and cleaning out, gas was gauged at 4,500,000 cubic feet with rock pressure at 1200 pounds. A Wilcox sand test for the county was staked in Midco Oil Corporation's Burgess 1, SEc NW 29-18-11e, west of Supulpa.

Continental Oil Company's Proctor 1, C NW 28-10-20w, western Washita County, after experiencing heavy gas pressure, was drilling at 10,975 feet.

The Carter County deep test, Pure Oil Company's Noble 1, C NE SE 35-3s-1e, north of Ardmore, was drilling below 7165 feet with show of gas.

Testing was in progress at Indian Territory Illuminating Oil Company's Fillmore 1, SWc 36-2s-19w, Frederick area, seeking initial Arbuckle lime production, had 250 feet of oil in hole after plugs were drilled. Present production in the pool is from Canyon lime.

In the Maramec area, Pawnee County, Wade Paxton et al's Woods 1, C NE NE 9-20-6e, topped Prue sand at 2795 feet and drilled but a foot deeper when gas pressure blew the tools up and oil began to fill the hole.

Deep Rock Oil Company et al's Scott 2, NEc 28-20-1w, Kay County, was abandoned at 3668 feet. Oswego lime was acidized and showed for 10 barrels but upper horizons failed to show. Cooper Drilling Company et al's Coughlin 1, SE NE SW 30-25-1e, wildcat northeast of Tonkawa pool, was drilling below 3915 feet in lime after a show of oil in Prue sand from 3635 feet to 3637 feet.

Oklahoma Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo—		
Magnolia, McKenna 11, sw ne se 11-5n-9w	2550	3347
Carter—		
Sinclair Prairie, Richards 18, sw nw se nw 9-4s-3w	16	1092
Coal—		
Continental, Brown 3, ne sw sw 7-1n-8e	3745	4641
Comanche—		
Wichita Oil, Palmer 10, se ne nw nw 28-2n-10w	4	456
Best, Curtes 11, sw sw ne se 25-2n-11w	*	220
Kerr-Lynn, Loging 1, c ne sw 30-4n-9w	*	6500
Creek—		
McAdams et al, McMahan 1, nwc sw 31-17n-10e	1000	2718
Bell O&G., Stanley 1, nw sw se 33-18n-10e	49	2626
Nabob, Fox 2, ne se sw 6-19n-7e	*	3186
Big Four Petroleum, Copeland 3, sec nw 24-19n-7e	70	2770
Sand Springs, Endicott 1, c n½ ne se 24-19n-7e	8	2791
Garfield—		
Sinclair Prairie, Harris 4, c se se 23-22n-4w	*	2442
Grady—		
Henry, Thomas 1, ne se ne 9-5n-7w	*	3007
Hughes—		
Ohio, Harjo 6, sw nw sw 26-9n-9e (otd 4135 ft)	*	3290
Jackson—		
Burnham, Thelma 1, ne se se 6-1s-10w	50	2595
Pawnee—		
Johnson, Finley 2, se nw nw 27-20n-9e	250	2103
Pontotoc—		
Delaney, Smith 4, swc 25-2n-6e (pb 3140 ft)	120	3712
Sinclair Prairie, McCarty 8, ne nw ne 22-2n-7e	10	1381
Shell, McKinley 2, sw ne nw 23-2n-7e	*	1399
Ross, Bray 2, sec nw 25-5n-4e	200	2645
Pottawatomie—		
Denver P&R, Hurford 1, cwl nw ne se 2-6n-4e	20	4200
Conley, Townsend 1, nec nw 7-6n-4e	Abnd.	Lcn.
Associated, Schroeder 3, sw ne nw ne 6-6n-5e	320	4097
Giblin, Standridge 1, sw nw se 7-7n-4e	Abnd.	Lcn.
Associated, Brown 2, ne sw nw 14-7n-4e	Abnd.	Lcn.
Reed, Hines 1, ne sw sw 17-7n-4e	*	2040
Magnolia, Magnolia-Billington "B" 1, sec ne 21-7n-5e	273	2758
Eagle, Green 2, sw nw se 29-7n-5e	355	4076
Smith, Tarter 4, sw nw sw 32-7n-5e	755	4055
Hall et al, Coleman 4, nwc 33-7n-5e (otd 4100 ft)	105	4122
Seminole—		
Viersen, Factor 7, sw nw sw 25-5n-7e	55	2272
McQueen, Ward 1, swc nw 3-6n-6e (pb 2600 ft)	25	4090
Pure, Chopya 1, nw sw nw 21-7n-6e (pb 2375 ft)	‡2.4	4454
Stephens—		
Skelly, Selby 20, nw nec se 26-1s-5w	24	733
Westheimer et al, Maloney 1, nw nwc ne 4-2s-3w	34	2286

*Failures; †Junked; ‡Mil. cu. ft. gas.

Kansas Field Developments

Hittle pool well has initial flow of 440 barrels per hour. New pool opened in Rice County with flow of 177 barrels.

Wichita.—With four pools getting extension, one new pool and a Hittle pool outpost good for at least 10,000 barrels, by far the best in the area, Kansas activity for the past week was brisk.

Hittle pool, Cowley County, contributed a record well in Barnett-Connley's Waite 1, NW NE SW 21-31s-4e, ¼ mile west of production, flowing 440 barrels per hour after topping Arbuckle lime at 3360 feet and drilled to 3368 feet. Structurally, the test is approximately 50 feet lower on the Arbuckle lime than other wells in the pool, the large potential due to increased porosity. Two wildcat starts in the same county off the Nemaha ridge include Lloyd, Frost et al's Chamness 1, NE NE SW 35-30-3e, 2 miles southwest of Trees pool, and Carlock and Shaffer's Houston 1, SW SE SW 3-31-4e, 2 miles northeast of the Hittle pool.

A new pool for Rice County, Coldwater North, went on record as Phillips Petroleum Company's Proffitt 1, E½ NE NE 8-20-9w, topped Arbuckle lime at 3244 feet and drilled to 3259 feet to earn a potential of 177 barrels daily. The test is structurally higher than production in Chase pool, of which it was previously thought to be an extension thereof, being 1 mile east from the pool and 1¼ miles northwest of Keesling pool. Surface pipe was set at 195 feet and 5-inch casing landed at 3244 feet. The well was shot with 15 quarts in the Arbuckle lime from 3253 to 3259 feet. Two extensions for the county are Duwe and Farris' Wiens 1, 110 feet west of SE NE SE 6-19-9w, which extended the Haferman pool ¼ mile to the north as oil slopped over the casing after drilling into Arbuckle dolomite at 3253 feet, with no test made. Transwestern Oil Company's Daugherty 1, SWc NE 33-17-10w, extended Stumps pool ½ mile to the

Kansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton—		
Sinclair Prairie, H. Laudick 1, sw nw ne 21-16s-11w	*	3363
Palmer, Casey 2, cwl nw se ne 4-16s-12w	*	3327
Cities Service, Lureman 1, nwc se 18-16s-13w	*	3275
Western Kansas O&R, Linsner "B" 1, csl se ne se 3-17s-13w	1523	3368
Rankin, Essmiller 1, ne sw se 16-19s-14w	*	3550
York State, Marchand 1, c e½ ne ne 24-20s-12w	559	3320
Butler—		
Adair et al, Dunne 1, swc 23-26s-7e	*	2080
Rex et al, Sutter 2, sec ne 7-28s-7e	70	2654
Hutton 2, ne sw sw 14-28s-7e	40	2675
Cowley—		
McKnobb, Moon 1, swc se 16-32s-5e	456	3073
Meade Bros., Julia 1, ne se sw 16-33s-3e	125	3239
Ellis—		
Cities Service, Hall "B" 11, nec nw 26-11s-17w	3500	3551
Ellsworth—		
Spencer et al, Patzner "B" 3, sw nw sw 31-17s-10w	6560	3049
Marion—		
Johnson et al, Miltz 1, swc 24-17n-4e	7	2485
McPherson—		
Miller, Suffield 2, se ne se 25-19s-2w	316	2958
Reno—		
Westgate-Greenland, Wood 1, swc ne 36-22s-5w	703	3921
Landon, Life 1, swc 7-24s-10w	*	3773
Rice—		
Gulf, Stout 4, se ne ne 6-18s-10w	1739	3219
McPherson Drlg. Co., Cramm "B" 1, sec nw 15-19s-9w	1108	3211
Shell, Wiggins "A" 1, c e½ ne 11-20s-8w	¶20	3330
Mid-Plains, Van Blarcom 2, csl sw ne nw 10-21s-7w	750	3374
Russell—		
Skelly, Carter 1, cel swc ne 33-14s-13w	524	2869
Aylward, Holl 3, se sw sw 22-14s-14w	778	3030
Southern, Meharg 4, nwc ne 18-15s-13w	*	3046
Cities Service, Krug "B" 2, nwc sw 13-15s-14w	1272	3126
Bender "D" 2, nwc se 23-15s-14w	972	3354
Stafford—		
E. H. Moore, Cleo Johnson 13, nec se 13-24s-11w	Abnd.	Lcn.
E. H. Moore, J. K. Johnson 7, ne se ne 13-24s-11w	Abnd.	Lcn.
J. K. Johnson 8, sec ne 13-24s-11w	Abnd.	Lcn.
Woodson—		
Woodson County, Kimball 14, nw se nw nw 18-24s-14e	10	1685

* Failures; † Junked; ¶ Million cu. ft. gas.

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north, pumping 105 barrels in 3 hours from Arbuckle lime at 3382 feet.

Gulf Oil Corporation has staked location for Charles 1, SE SW 28-19-9w, ½ mile northwest of DeWitt extension of Campbell pool, Rice County. The wildcat has one dry hole a quarter mile east and one a location north.

Big Creek and Allon Extended

Big Creek pool and Allon pool, Russell County, both had extensions. Vernon Oil & Gas Company's Olson 1-B, NEc 28-14-14w, one quarter mile west Allon pool, swabbed 30 barrels per day from Lansing-Kansas City lime at 3066 feet but is drilling below 3085 feet to test Arbuckle lime. George Ballou's Maude 1, NEc 6-15-14w, ½ mile south of production in Big Creek pool, had 500 feet of oil in the hole from Lansing-Kansas City lime below 3100 feet, and is drilling ahead to test Arbuckle lime.

Central Petroleum Company's Wessler 1, C E½ E½ NW 19-17-9w, which previously extended Schroeder pool, Ellsworth County, ½ mile to the northwest, made a potential of 490 barrels from 3253 feet in Arbuckle lime. On the southwest edge of pool, Cities Service Oil Company's Schroeder A-5, NWc SW 29-17-9w, after acidizing with 3500 gallons in Arbuckle lime at 3243 feet, flowed 928 barrels daily.

Shallow pay from Bartlesville sand was found on the flank of Forest City Basin in northeastern Kansas as OK Supply Company's Knabe 1, C NE NW 15-14-22e, Johnson County, made from 50 to 75 barrels daily from the sand topped at 707 feet and drilled to 723 feet.

Gulf Oil Corporations' Barngrover 1, SWc 30-19-9w, which last week extended the Chase pool, Rice County, a mile to the west after filling 7700 feet from Arbuckle lime at 3284 feet and on a 9-hour swabbing test made 224 barrels of oil. It was acidized with 2000 gallons and will be tested again.

Kruckenberg pool, Barton County, receiving a 1-mile west extension from Amerada Petroleum Corporation's Merten 1, C NW NW 14-19-15w, after plugging back to 3395 feet in Kansas City-Lansing group on finding Arbuckle lime absent, earned a potential of 437 barrels daily, accompanied by 5,000,000 cubic feet of gas.

Potential was made on Skelly Oil Company's Miles E-1, CNL S½ NE, 29-27-10w, ¼ mile south of Cunningham pool, Kingman County, to earn a rating of 309 barrels per day from Kansas City-Lansing lime at 3439 feet.

Butler County had two wildcat locations staked and one failure recorded. Spencer et al's Sinkhorn 1, NEc SE SW 16-27-6e, south of Reynolds-Shaffer pool, was staked. Allison and Landon have made location for Tabing 1, NW NE NE 28-27-6e, north of Stern pool. Adair et al's Dunne 1, SWc 23-26-7e, northeast Young pool, was abandoned after finding the Mississippi lime dry at 2775 feet and plugging back to Kansas City lime at 2074 feet where it had but slight oil recovery after acidizing.

A wildcat in Stafford County failed to find production as E. H. Moore's Secrest 1, C S½ SE NW 21-25-11w, southwest of Zenith pool and west of abandoned Neola pool, topped Arbuckle dolomite at 4157 feet and drilled to 4165 feet, the recovered core having only a strong sulphur odor.

Illinois Fields

Gallatin County wildcat tops saturated Waltersburg. Possibility of new pool north of Lake Centralia.

Olney, Ill.—Coates et al's (Zeppa & Fields') Dr. E. A. Green 2, SE SE SE 17-9s-9e, Gold Hill Township, Gallatin County, topped 25 feet of saturated Waltersburg sand at 1767 feet and reported oil rising in the hole. The wildcat is in the vicinity of Coates et al's Green 1, which drilled three oil sands but failed to find saturation sufficient to make a producer. Green 1 was abandoned in the St. Louis lime at 2711 feet. As yet the county is without production.

Arthur "Tex" Harvey et al's Salem Building & Loan 1, C N½ NE SE 33-3n-2e, Tonti Township, 2½ miles north of the Lake Centralia-Salem pool, may open a new Marion County pool. Located on the west edge of a structure, it topped the McClosky at 2161 feet. Casing was set after 16 feet of saturation was cored, but on drilling plugs operators decided to carry the hole a little deeper before running tubing and rods. Several hundred feet of oil were in the hole when plugs were drilled.

W. F. Armstrong's S. W. Scott 1, W½ SE 23-3s-2e, McClellan Township, Jefferson County, was preparing to drill plugs after running a squeeze job. Operator predicted a 100- to 200-barrel producer, opening a new pool. It is being completed in the McClosky, topped at 2828 feet.

The southern boundary of the new Cordes pool of Washington County was apparently defined last week when W. C. McBride, Inc. and Shell Oil Company's Luney 1, SW SW SE 22-3s-3w, cored a dry Benoist sand from 1287 to 1304 feet. It is ¾ mile from Pres Cochrane and G. H. Blankenship's Oak Grove Cemetery 1, which started the boom in the area. The outpost will be carried to the McClosky lime unless the intervening Aux Vases sand is found productive.

Heavy rains early in the week returned the Illinois basin to its status of January and February, with streams outside their banks and fields so soft that movement of equipment and materials in many areas was impossible. Activity had been picking up during the past month after weeks where new work was confined almost entirely to demand offsets.

The Texas Company's W. C. Wright 1, NE SE NE 36-2n-1e, Odin Township, west outpost to the central part of the Lake Centralia-Salem pool, Marion County, was abandoned as dry last week at 2211 feet.

Menhall Corporation et al's Hazelwood 1, NE NE SW 8-2n-1e, Sandoval Township, Marion County, stopped at 1554 feet to move out portable rotary tools for a cable outfit with which to explore any stray sands in the next 200 feet. The transfer was made just below the Benoist sand, where pipe was set.

Holding that the state tax commission's recommendation that non-productive lease holds be taxed at $10 an acre were only suggestive, and not mandatory, Marion County Treasurer Homer Lewellen last week instructed assessors to levy taxes on only producing oil wells. It is the first definite action taken by a county tax official following an attorney general's ruling of several weeks ago that oil production, leases and royalty could be taxed under Illinois law.

Lewellen announced that producing wells one year old will be valued at $100 a barrel on the basis of their average daily production, wells two years old would be valued at $200, three-year-old wells at $300, etc.

New York Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Allengany County—		
Bradley Prod. Corp., Star farm, Bolivar	8	1427
Lester Young, Myrtie Vincent farm, Scio	4	1036
Budd Oil Co., Anderson-Otis farm, Alma	6	1410
L. E. Norton Est., Coats farm, Scio	4	1270
Marsh Oil Co., Withey farm, Bolivar	6	1350
Steuben County—		
Sylvania Corp., Calhoun 1	¶	4167
Allegany: Water Intake Wells		
Forest Oil Co., Ackerman farm, Bolivar	...	1383
Ebenezer Oil Co., Emerson farm, Scio	...	1059
Porge Oil Co., Anderson-Otis farm, Alma	...	1396

Pennsylvania Completions

BRADFORD DISTRICT

R. E. Hungiville No. 3, Bigler	2	....
Dawn Oil Co., Fee	½	....
Forest Oil Corp.	1	....
Forest Petroleum Corp., 4 wells	4	....
Niagara Oil Corp., 3 wells	3	....
Niagara Oil Corp.	1	....
Bradford Transit Co., 9 wells	9	....
Bradford: Water Intake Well		
Forest Oil Corp.	...	....
Butler-Armstrong District		
Fithian & Co., Berg	2	....
Middle District		
Warren Bank & Trust Co., Reynolds	5	....
E. F. Grimm, D. S. Cocks	1	....
S. Y. Ramage, Jr., Henderson	1	....
New York-Pennsylvania: Gas Field		
Hanley & Bird, G. H. Rice	¶	....
Belmont Quadrangle Drilling Co., F. Hilligas No. 3	¶	....
Greene County—		
C. H. McVey et al, Laughman 1	.05	3220
Potter County—		
New York State Natural Gas Co., McCarthy 1	7.50	5151
G. L. Cabot, Inc., Cobb	*	5702

* Failures; † Junked; ¶ Million cu. ft. gas.

State department report reviews Illinois drilling gain

Urbana, Ill.—Illinois oil well completions during the first three months of the current year totaled 764, a gain of 343 percent over the 223 wells completed during the corresponding period a year ago, the state geological survey reported last week in a quarterly review of the state's oil activity. Producing wells accounted for 613 or 80.2 percent of the last quarter's completed

Illinois Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Clark County—		
Miller & Miller, K. & E. Young 1..	*	505
Clay County—		
Pure Oil Co., Minnie Mitchell 2....	89	3080
Phillip Edens 3	910	3100
Daney Schott 2.....	1020	3080
Daney Schott 3.....	812	3085
Dick Burnett, Cyrus Liggett 1.....	2000	2357
Kingwood Oil Co. and Gulf Refining Co., Davis 1	*	2685
Clinton County—		
Shell Oil Co., Criley 2A.....	30	1217
Iroquois Oil & Gas Co., Ed Kaelin 1	20	1382
Illo Oil Co., Roberts 1.....	14	1382
Claude Bell, R. T. Athoff 1.....	10	1036
Noelkemper et al, C. M. Kile 1....	*	1170
Lindsey Bros. & British American, Boenhoff 1	*	1212
Coles County—		
R. F. Wheeles et al, Michael 2....	*	3254
Crawford County—		
E. E. Carwood et al, L. N. Toehill 1	*	930
Edgar County—		
Black & Moore, Sturgell 1.....	*	2028
Fayette County—		
Carter Oil Co., Birdie Hoover 1....	75	1581
Florence Harding 5.....	264	1540
M. J. Griffith 4.....	182	1562
M. J. Griffith 5.....	600	1565
William Durbin 1.....	924	1593
Florence Durbin 1.....	288	1576
H. O. Lewis 3.....	176	1589
Alfred Dunaway 1.....	600	1541
William Ireland 2.....	984	1583
William Ireland 3.....	444	1586
Charity McClain 2.....	612	1581
Martin McClain 3.....	288	1587
Martha Tirrey 2.....	552	1581
Martha Tirrey 3.....	420	1570
A. Watson 4.....	184	1580
Ramsey-Leavy 3.....	388	1587
L. & G. Oil Co., Stewart 1.....	*	1822
Schriber & Martin, Magnus 1.....	*	1817
Ohio Oil Co., C. M. Rush 1.....	128	1589
Frank De Mayo, R. C. Barnes 1....	*	1658
W. B. Johnson, Stewart 2.....	110	1553
Gallatin County—		
Delta Drilling Co., Stenson 1.....	*	2795
Coates et al, Green 1.....	*	2711
Greene County—		
Louis C. Simmel, Frank Stelle 1....	*	444
Jefferson County—		
Carter Oil Co., H. R. Luchsinger 1..	137	1981
Alice Boggs 1.....	230	1945
Lawrence County—		
Jake Cannon et al, R. T. Gillespie 1	35	345
Kitchen & Wilson, R. A. Asckman 1	*	500
Rockstead et al, Ullrich 1.....	*	725
R. E. Lonergan, Fisher & Tewalt 1A	¶1.5	831
Joe Young et al, Bierhaus 1.....	*	825
Madison County—		
Louis C. Simmel, Mary Keeler 1..	150	1300
Penn-Illinois Oil Co., Hurlbrink 1..	*	1415
Marion County—		
Texas Co., City of Centralia 17....	224	1823
M. Bryant Community 2.....	148	1891
E. Farthing 2C.....	140	1886
Antioch Church 4.....	280	1993
B. Hawkins 3.....	560	1753
B. Hawkins 4.....	266	1767
V. Kalkbrenner 16.....	224	1788
V. Kalkbrenner 17.....	600	1988
J. Richardson 5.....	378	1744
H. Small 10.....	438	1822
C. E. Bundy 3.....	196	1757
G. Johnson 4.....	308	1757
C. E. Richardson 3.....	336	1742
E. Snider 2.....	525	2114
R. Craig 4.....	210	2091
H. Heyduck 1.....	126	1905
H. Heyduck 4.....	280	1892
J. Williams 3.....	210	1884
J. R. Fyke 1.....	126	1881
R. Fyke 6.....	70	1864
H. Winegarner 1.....	42	2117
Zephyr Drilling Co., Geo. A. Mercer 2	145	1907
Hollingsworth, Kalkbrenner 9.....	120	1990
Kalkbrenner 10	528	2002
W. C. McBride, Inc., William Fyke Heirs 4	1100	1999
William Fyke Heirs 5.....	960	2000
Roberts, Pittenger 7.....	225	1836
Randolph County—		
Hamlin et al, Albert Anderson 1....	*	1340
Richland County—		
Pure Oil Co., J. O. Coen 18.....	*	3020
H. Cazel 4.....	333	2816
Wakefield 9	266	2607
Saline County—		
Dr. I. W. Sigel et al, Choisser 1....	*	1405
Shelby County—		
Independent Producers & Refiners, B. Derst 1	*	1788
Wabash County—		
Hoffman, Clyde King 2.....	*	1400
Tide Water Associated Oil Co., Cowling 1	*	2830
Wayne County—		
Pure Oil Co., F. T. Broch 1A.....	28	1367
Fitch-Rowell Consolidated 1.....	1384	3130
C. C. Harwell et al, Elson Fitch 1..	*	3198
Weinert, Inc., Leslie Cunningham 1	*	3507
New Penn. Development Co., J. L. Wagner 1	20	3441
White County—		
Robinson, Cora Springer 1.....	*	3608
Price & Massey, Sam J. Higginson 1	*	3275

* Failures; † Junked; ¶ Million cu. ft. gas.

wells, while 157 producing wells accounted for 70.4 percent of completions during the same period a year ago.

The survey's figures on production show that Illinois climbed to fifth place during the quarter, its estimated 13,784,000 barrels surpassing by 232,000 the 13,552,000 barrels produced in Kansas. Of Illinois production during the quarter, 13,018,000 barrels came from fields opened since January 1, 1936, while 766,000 barrels came from old fields.

The steady increase in drilling activity in Illinois is indicated by 92 completions, including 52 producing wells, in 1936; 449 completions, of which 292 were producers, in 1937, and 2541 completions, including 2011 producers, in 1938.

The survey lists 2781 producing wells in the state's 29 new pools, scattered in 11 counties. In development of these pools, 219 dry holes were drilled within ¼ mile of production. Drilling wells numbered 42, 168 wells had rigs standing or were rigging up, and 29 locations had been staked.

Activity by counties and pools follows: Bond County—Sorento pool, 1 producer; Washington County—Cordes pool, 2 producers, 1 dry hole, 4 drilling, 4 rigs; Fayette County—Beecher City-Louden pool, 710 producers, 37 dry

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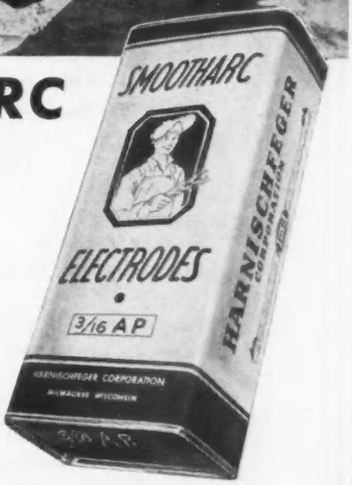

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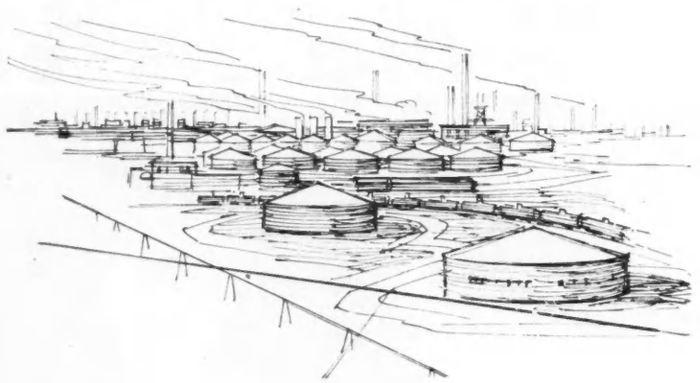
holes, 12 drilling, 75 rigs, 14 locations; St. James pool, 32 producers, 1 dry hole, 1 rig; Marion County—Patoka pool, 104 producers, 20 dry holes; Lake Centralia—Salem pool, 762 producers, 30 dry holes, 11 drilling, 40 rigs, 7 locations; Clinton, Marion County—Centralia (new) pool, 545 producers, 38 dry holes, 8 rigs; Jefferson County—Dix pool, 41 producers, 1 rig; Roaches pool, 4 producers, 1 rig; Marcoe pool, 1 producer; Elk Prairie pool, 1 producer; Ina pool, 1 producer, 2 dry holes.

Coles County—Mattoon pool, 1 producer, 1 rig; Clay County—Flora pool, 14 producers, 2 dry holes, 1 drilling, 2 rigs; Clay and Wayne counties—Clay City pool, 254 producers, 17 dry holes, 4 drilling, 6 rigs, 4 locations; Richland County—Noble pool, 154 producers, 30 dry holes, 5 drilling, 4 rigs, 2 locations; Schnell pool, 4 producers, 5 dry holes; Olney pool, 33 producers, 11 dry holes; Wayne County—Rinard pool, 1 producer, 2 dry holes; Cisne pool, 37 producers, 7 dry holes, 1 drilling, 1 rig, 1 location. Boyleston pool, 3 producers, 1 dry hole, 1 drilling, 1 rig, 1 location; Aden pool, 4 producers, 2 dry holes; North Aden pool, 45 producers, 5 dry holes; Enterprise pool, 3 producers, 2 dry holes, 1 drilling, 9 rigs, 1 location; Mt. Erie pool, 1 producer; Bardhill pool, 1 producer, 1 drilling, 3 rigs; Golden Gate pool, 1 producer; Leach Township pool, 2 producers, 1 rig; Lawrence County—Russellville gas pool, 19 producers, 5 dry holes, 1 drilling, 3 rigs.



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Spencer County gas well opens new field

Evansville, Ind.—W. W. Damron's Shelby Wright 1, SE SW NE 19-7s-6w, Ohio Township, opened a new Spencer County gas field with a gauge of 5,000,000 cubic feet from the Waltersburg sand, topped at 890 feet. The well was bottomed 4 feet in the formation.

In Luce Township, Spencer County, W. W. Damron's Cora Niles 1, NE NW NE 2-8s-7w, had a show of oil in the Waltersburg sand, but no gas, and was drilling ahead. The sand was topped at 970 feet.

Arthur Grewe et al's (McWilliams-Schwartz') Jas. S. Brammer 1, SE NE NE 14-5s-9w, Campbell Township, Warrick County, completed reaming from 1000 to the top of the McClosky at 1887 feet, where a 3-foot saturated core had been taken with a diamond outfit, and set casing. Operators were preparing to acidize immediately on drilling plug. If successfully completed, it will be the first commercial oil well in the county.

Wildcat failure of the week was R. S. Hayes' (Yingling & Hayes') Ralph Baker 1A, SW SE NW 29-3n-2w, Northwest Township, Orange County, which found salt water in the St. Peter. It was abandoned at 3226 feet. Also abandoned was Fred Phillips' Eli Hammer 1, SW SE NW 18-3s-5w, Cass Township, Dubois County, at 1050 feet.

In Posey County, Kenilind Oil Corporation located the Inez Montgomery 1, NE NE 9-4s-12w, two miles northeast of Poseyville. Principals of the company are Paul A. Diggs, James A. Meyer and Inez Reitz Royster.

Continental Oil Company located its second operation in the new Griffin pool of Gibson County—Cooper 2, NE SW SE 12-3s-14w—which will be taken to the McClosky.

Three miles from the Evansville city limits, and within ¾ of a mile from each other, two wildcats were attracting interest: Dr. J. M. Glazier's Hufnagel 1, NE NE 7-7s-11w, was drilling at 1005 feet, while R. E. Moore and Earl Ford's George Steinkamp 1, SE NW 5-7s-11w, was preparing to drill below surface casing.

A Sullivan County Devonian test, Hawaiian American Exploration Company's May & Josephine Frakes 1, SW NE SE 20-8n-9w, Hamilton Township, was below 1000 feet.

Indiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Pike County—		
Kirk D. Holland, Bank of Evansville 10	¶	612
Posey County—		
Sun Oil Co., H. A. Mann 1	30	1881
Sullivan County—		
Niagara Oil Corp., A. Carey 9	10	681

Ohio Completions

Ashtabula County—		
J. H. Hogue, Fred Mosher 1	30	667
Cuyahoga County—		
Benedum-Trees, Highland Land Co. 1	¶.52	2835
Guernsey County—		
Midway Gas Co., Davis 1	*	1109
Knox County—		
H. E. Perkins, Workman 1	¶.37	2640
Geo. Vandergrift et al, Stricker 1	*	3055
Medina County—		
Pearsall & Lance, Clyde A. Clapp 1	.¶25	457
Muskingum County—		
W. L. Sutton, Payton et al, 1	¶1.00	4000
Noble County—		
Jewell, C. B. Laymon 1	¶	1411
Stark County—		
White Co., Werstler 1	¶2.30	4591
Obermiller Bros., F. Turner 1	¶2.20	4457

* Failures; † Junked; ¶ Million cu. ft. gas.

Kentucky Fields

Two wildcat tests fail; floods again hamper work

Owensboro, Ky.—Two wildcat failures marked Kentucky activity last week, a period that saw streams and rivers steadily rising after heavy rains with soft fields and roads in many areas precluding movement of equipment.

On the western edge of Daviess County and near Highway 60, W. E. Hupp et al's Mrs. H. A. Reno 2 cored well into the Mississippian where sulphur water was found at 1982 feet. It was abandoned at that depth. The first attempt on this lease ended in failure when the casing slipped into the hole.

Near Nuckols in McLean County, Fred Phillips' C. A. Montgomery 1 found sulphur water in the McClosky and was abandoned at 1835 feet. This operator's No. 3 on the Shearn Coal Co. lease in Muhlenberg County, where the No. 1 opened a new pool several months ago, also had sulphur water in the lime and was abandoned at 1835 feet. Shearn Coal Co. 4 was drilling at 550 feet.

With 520 barrels of oil in storage on the lease, Springrose Drilling Company's Pillman 1, 1¼ miles northwest of Reed, Henderson County, which opened a new pool a week ago, was shut down last week after installing pumping equipment. Fordsville Gathering Lines, Inc., was delayed in laying pipe to the well because of impossible ground conditions.

The weather also prevented movement of the rig for an offset test. First indication of another operator entering the Reed area was given when New Penn Development Corporation acquired an adjacent 80 acres of a 1000 acre lease owned by N. P. Johnson, of Pittsburgh. Definite location for a test was not immediately announced.

Carter Oil Company, closely watching the rising Green River which divides the Burk City pool of Henderson and Daviess counties, was preparing to take out pumping engines. A slight additional rise in the river, which was expected, would force a shut down of producing wells similar to that which occurred early in the year.

Radio Oil Company was preparing to reenter the T. W. Franklin 1, near Farmersville, Caldwell County, which had three oil

Kentucky Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Breckenridge County—		
Charles Marsh et al, Delia Moorman 1	5	483
Butler County—		
Hart Petroleum Co., Opal Harper 1	*	256
Opal Harper 2	*	169
Daviess County—		
J. C. Miller et al, Federal Land Bank 1	*	1935
Dougherty & Ellis N. C. Howard & O'Flynn 3	60	1750
Ashby et al, Hagan 1	250	1876
Hancock County—		
J. W. Tuttle, W. C. Boling 1	*	380
Henderson County—		
Magnolia Petroleum Co., A. Green 2	*	2588
Lee County—		
Petroleum Exploration Co., Pryce Heirs 3	25	....
Muhlenberg County—		
Fred Phillips, E. H. Boggess 1	50	1621
Ohio County—		
Ohio Oil Co., J. A. Kirk 22	¶10	324
J. W. Tuttle et al, Russellberg	*	600
Powell County—		
J. C. Perry, Woodard Heirs 2	5	....
Wireman Bros., Stewart 5	5	900
Union County—		
Brauer & Daniels, Pollard 1	*	3022

* Failures; † Junked; ¶ Million cu. ft. gas.

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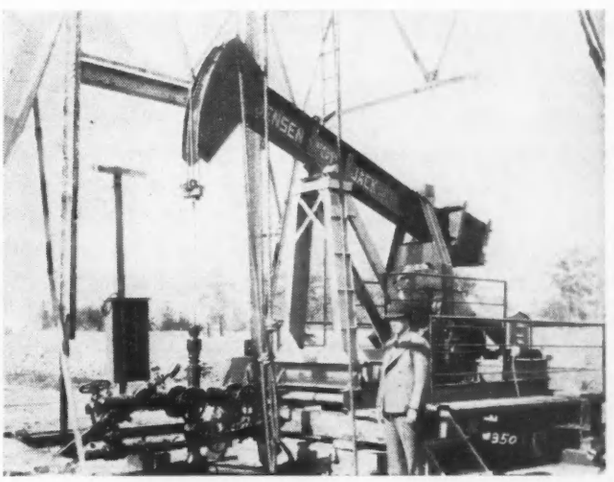

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and gas shows when drilled to 1632 feet a year ago. It has been idle for the past year. The company has purchased the oil and gas lease on the nearby James Watson tract.

West Virginia Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Clay County—		
Thompson Gas Co., Thompson Land & Coal Co. 11	¶.06	2318
Lincoln County—		
Guyan Gas Co., Jeffers 2	¶.07	2196
Marion County—		
Clifton Oil & Gas Co., Campbell Heirs 2	*	4170
Monongalia County—		
Eddy & Co., Wright 1	¶.13	3094
Ritchie County—		
Burge Drilling Co., Lewis 1	*	1860
Tyler County—		
Ohio Oil & Gas Co., Gorrell 1	*	2305

* Failures; † Junked; ¶ Million cu. ft. gas.

West Texas Fields

Thick pay found in extreme east part of Wasson.

Wildcat near Bennett plugs back for completion.

Midland.—Completion of a minor extension in the extreme east portion of Wasson by Magnolia Petroleum Company's Kendrick 1, SW SW NE Section 825, revealed pay thickness that is on a par with the average for the large structure. Situated ¼ mile north of the most easterly producer, Kendrick 1 earned a potential rating of 1052 barrels of 33 gravity oil after using 6500 gallons of acid in the regular lime at 4995-5152 feet. An analysis of the formation showed an aggregate of 130 feet of saturated lime carrying good porosity. Sinclair Prairie Oil Company's Kendrick 2-A, SW SW SE Section 825, began showing free oil at 4050 feet, and was drilling at 5045 feet.

Shell Oil Company's Waples-Platter 1, which has been in process of completion for several weeks as a 2-mile northeast extension for Bennett or a new discovery for Yoakum County, has plugged back to 5312 feet for completion. The well was drilled to 5380 feet, or 1813 feet sub sea, where it filled 1600 feet with oil and 600 feet with salty-sulphur water in 8 hours after swabbing down. First water was report-

West Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Andrews County (Fuhrman)—		
Fuhrman Pet. Corp., Ford 15	1874	4465
Crane County (Dunes)—		
Great Western Producers, University-Texas Co. 1-A	764	3290
Crane County (Sand Hills)—		
Gulf, Waddell et al 10	¶15¼ & 539	6027
Gulf & Cranfill Bros., J. B. Tubb 16	*	6114
Ector County (Foster)—		
Arkansas Fuel Oil Co., Johnson 1-B	609	4187
Barnsdall, Johnson 5	435	4285
Broderick & Calvert, Bagley 2	1178	4295
Cities Service, Bagley 7	938	4280
Sunray Oil Co.-Yark-Harper, Witcher 1-C	1585	4175
Ector County (Goldsmith—		
Cities Service, Cummins 5-D	546	4250
Landreth Prod. Corp., Scharbauer 8-L	298	4187
Phillips-Pure, J. Cowden 5	438	4222
Hockley County (Slaughter)—		
Stanolind, Slaughter 1-B	1668	5054
Howard County—		
Magnolia, Scott 1	41	3291
Jones County—		
Fain-McGaha Oil Corp., Shaheen 5	500	1889
Falls Ref. Co.-Dee Humphrey, Smith 2	1000	3272
Bert Fields-Carey King, Humphrey 4	1470	3248
Gregg Oil Co. et al, Osment 1	†	1890
Lewis Prod. Co., Muenzler 1	1500	3260
Sandy-Ridge Oil Corp., Steffens 6	218	1902
Kent County (Wildcat)—		
Dolman et al, O'Keefe 1	*	300
Pecos County (Pecos Valley)—		
Union O&M Co., First Nat'l Bank (Ft. Stockton) 1	242	1889
Lessenich-Magnolia 3-D	415	1865
Scurry County—		
Teas et al, Thompson 1	154	2460
Upton County (McCamey)—		
Patillo et al, Baker-Republic 8	36	2296
Reese & Pittman, Cordova Union-Texas Co. 1	747	2194
Ward County—		
DeKoch et al, I. T. Kessler 1	*	2253
Gulf, Estes 117	1604	2650
O'Brien 109	182	2767
W. P. Luse & Ice, Brictson 8	264	2097
Ohio, Johnson 3	116	2051
Winkler County (Keystone)—		
Carter et al, Walton-Pure 20	253	3386
Standard of Texas, Baird 2	167	3357
Yoagum County (Bennett)—		
Mabee et al, Willard 6-a	2710	5242
T. P. Coal & Oil Co., Bennett 20	1419	5250
Yoakum County (Wasson)—		
Aloco Oil Co., Willard-Texas Co. 1-B	659	5182
Humble, Wooten 9	910	5170
Magnolia, R. M. Kendrick 1	1052	5152

* Failures; † Junked; ¶ Million cu. ft. gas.

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ed at 5323 feet. A nitro shot or acid is expected to convert it into a flowing well.

The northeast edge of Slaughter field, Hockley County, attained a higher rating from a production standpoint when Stanolind Oil & Gas Company's Slaughter 1-B, SEc Labor 8, earned a potential rating of 1668 barrels after a three-stage acid treatment of lime at 4981-5054 feet with 9000 gallons. It offsets two small producers.

Two important outposts for the area were near the projected pay zone late last week. Sid Richardson et al's Denton-Sun 1, located 4000 feet northwest of production, was drilling at 4800 feet. The Texas Company's Mallet 1-C, 2½ miles southwest of the field, resumed drilling at 4890 feet after cementing 7-inch pipe at 4797 feet.

Projected wildcats for the district include an Ector County test by Landreth Production Corporation, which has made location for Frank Cowden 1, C SW NW T&P Section 10 Block 44, T-1-N. It is situated 3 miles north by east of Goldsmith production, and the same distance southwest of Emma Pool's abandoned discovery producer. Magnolia Petroleum Company proposes to drill a 4500-foot test in South Central Dawson County, with location to be assigned to Section 8 or 9, Block 35, T-4-N, T&P Survey. The company recently paid $5 bonus per acre for a lease on the NW Section 1, Block 36, in rounding out its short term block.

Ordovician Erratic

Erratic performance of the Ordovician horizon in the Sand Hills field, Crane County, was emphasized again the past week when Gulf Oil Corporation and Cranfill Brothers 16, C SW NW PSL Section 8, failed to make a producer in the Simpson or Ellenberger, and was abandoned in sulphur water at 6114 feet. Gulf Oil Corporation's Waddell et al 10, a west offset, flowed 539 barrels of 56.5 gravity oil and distillate in 24 hours through casing, with 15,278,000 feet of gas. Production is from Simpson and Ellenberger between 5819-6027 feet, with an elevation of 2545 feet. A later test through tubing landed at 6023 feet credited the well with flowing 205 barrels of 49 gravity oil, averaging 3 percent bs&w, in 24 hours. The gas yield was reduced to 1,808,000 feet daily on this gauge.

Two projected Ordovician tests in northern Pecos County and along a southeast trend from the Sand Hills field are making fast drilling time. Anderson-Prichard Oil Corporation et al's Masterson 1, located in the Masterson shallow pool, was drilling hard lime at 4250 feet. Magnolia Petroleum Company's H. J. Eaton-Abell 1, was drilling at 700 feet, cutting an 8¾-inch diameter hole.

In Crockett County, Humble Oil & Refining Company's Ozona-Barnhart 1, 4 miles south of Ozona, was drilling at 6980 feet, and is prepared to go to 8000 feet.

Texas drilling permits

Permits for drilling 177 new wells in Texas were approved by the Texas Railroad Commission last week, 10 more than were allowed the week before.

No permits were approved in the East Texas field, although eight locations were reported from the remainder of the East Central Texas area. There were 33 locations listed from West Texas, including 12 in Ector County,

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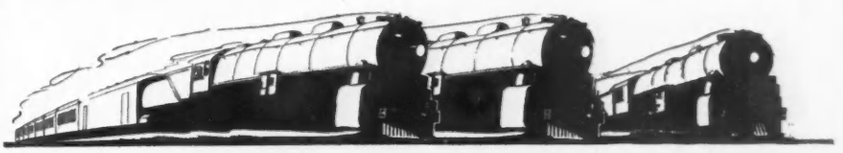

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while 27 permits were granted in West Central Texas.

Operators in the Gulf Coast area were permitted to drill 35 new wells, and Southwest Texas operators were allowed 44 new locations, including 14 in Caldwell and 11 in Duval County.

The commission approved 23 locations for the North Texas District.

Texas Panhandle Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Moore County—		
Texoma Natural Gas Co., O. E. Gober 2-SP	¶11½	3185
Roberts County (Wildcat)—		
J. T. Whitlock et al, B. J. Cunningham 1-A	*	4400

* Failures; † Junked; ¶ Million cu. ft. gas.

North Texas Fields

Clay County wildcat logs Strawn sand saturation. Hull-Silk well flows 165 barrels in two hours.

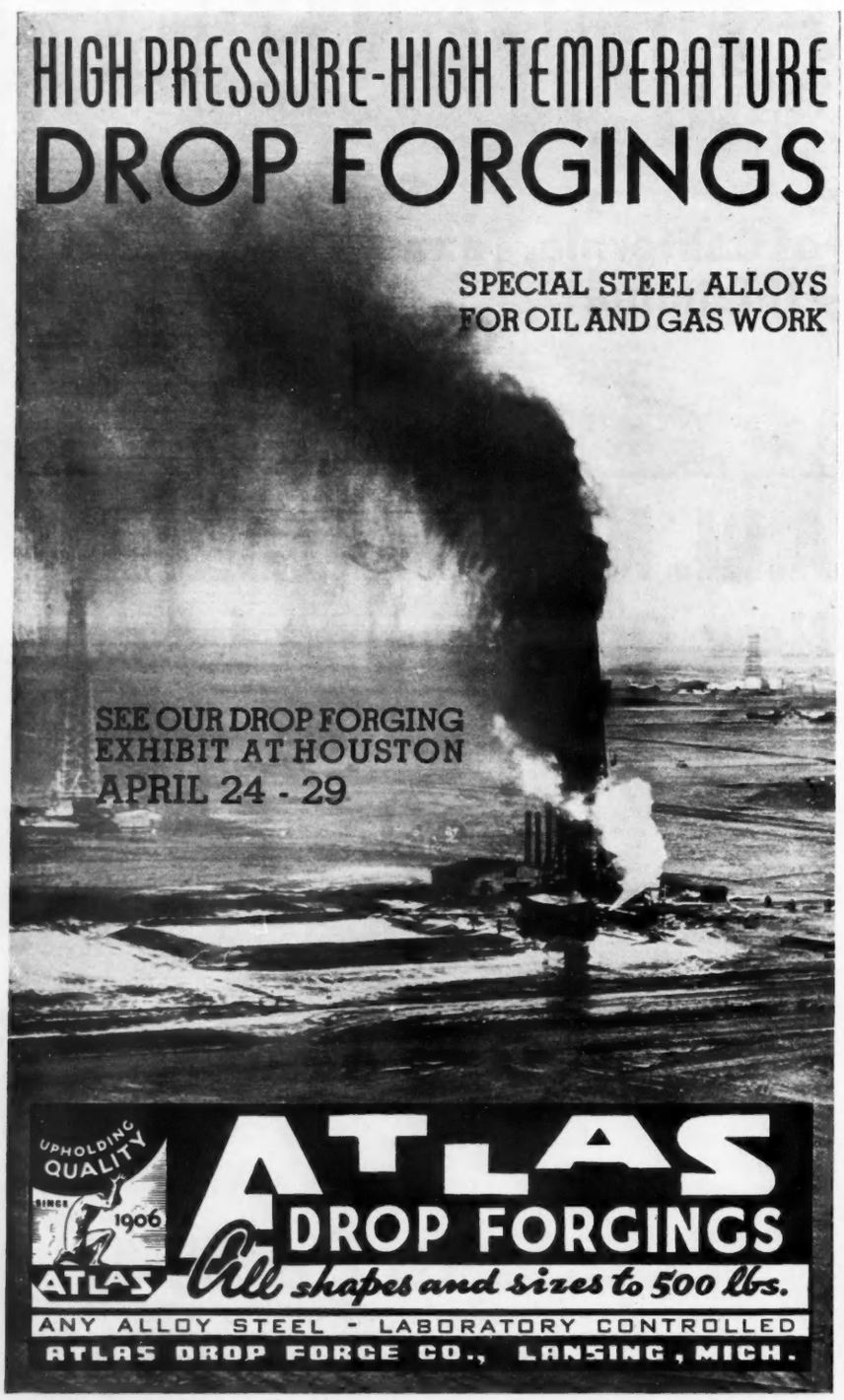
Wichita Falls, Texas.—West central Clay County contributed a new oil prospect from the Strawn horizon last mid-week when Bridwell Oil Company's Furd Halsell 1, Block 16, Washington County Railway Survey A-976, logged oil saturation in sandy-lime at 4754-93 feet. The best porosity was found at 4785-93 feet. Officials of the company were to study the log of an electrical formation survey before deciding whether pipe would be run to try for a completion. Halsell 1 logged top of the K-M-A lime marker at 4422 feet. It is located 1½ miles north by east of the Halsell settlement, and 7½ miles north by west of L. T. Burns et al's Browning 1, which was completed last March 11 with a rated potential of 1248 barrels natural from Strawn at 4432-61 feet.

Two offsets to Burns et al's discovery are under way, and a northeast outpost for the area is contemplated. The producer has an allowable of 100 barrels daily, and a portion of this quota is being sold at 85 cents per barrel at the well to Bell Oil & Gas Company. The oil is transported by trucks to the latter's pipe line station near Burkburnett. Burns et al's Browning 2, east offset, was drilling at 3630 feet. Shell Oil Company's W. A. Davis 1,

North Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Wildcats)—		
Piper & Wilson, S. M. Cowan 1, blk 49	*	1125
Shell Oil Co., Inc., Turbeville 1, sec 170	*	1544
Archer County—		
Continental Oil Co., DeMoss 5	71	1005
Clay County—		
Houston Bowers et al, Shumake 12, blk 4	*	305
Kimmell-Lee & Co., Firestone 10, 10, sec 23	96	1144
Cooke County—		
Schermerhorn Oil Corp., M. Kessler 19, blk 5	34	1346
Jack County—		
R. D. Compton et al, R. Wilson 3	*	400
Murray & Rogers, J. W. Shown 1	*	405
Wichita County (Wildcat)—		
Deep Rock Oil Corp., Mackechney 3, blk 18	*	1219
Wichita County (K-M-A)—		
Barnes & Traugh, Kempner 1, blk 41	300	3905
Board of Mineral Dev.-G&W Drl. Co., Wichita River 7	960	3709
Consolidated Oil Co. et al, Ferguson 22, lot 11	992	3783
Fain-McGaha Oil Corp., Griffin 3-C, lot 6	1176	3817
Golding Est. & Cochran, Preston 7, sec 27	1664	4009
King Oil Co., Wigley 6-A	328	3875
King Oil Co.-Perkins-Cullum, Pettit 16, sec 28	840	3735
Wichita County—		
G. W. Cooper et al, Waggoner Bros. 32-C	78	1856
Fisher & Dudley, F. P. Warren 3	117	1380
Palmer & Chanault, Inc., Waggoner Bros. 3	84	1868
Pols & Schultz, Mary Cody 1, blk 311	12	2111
Seaboard O&G Co., F. P. Warren 2	*	714
M. Staniforth et al, Sarah George 2	*	1424
Wilbarger County—		
Golding Est. & Cochran, Waggoner Est. 6-S, sec 30	210	1556
Young County—		
C. V. Morgan et al, B. W. Drum 1, sec 603	720	3925
A. T. Strong et al, J. M. Smith 3, sec 634	400	4005
W. E. Production Co., B. W. King 1, sec 624	1680	3902
J. G. Wooten et al, G. P. Stewart 2	4	875

* Failures; † Junked; ¶ Million cu. ft. gas.



south offset, passed up nominal oil showings near the 2000- and 3200-foot levels, and was drilling at 3640 feet. Walter H. Grant et al are acquiring lease on about 1000 acres from Roy M. Johnson and others for a Strawn test. This acreage was taken by the latter as protection around Healdton Oil & Gas Company's Wallace 1, NWc Section 33, J. H. Belcher Survey, which was abandoned last May at 5886 feet.

J. A. Chapman and Ed. McFarlin's Wilson 2-E, lot 1, Section 22, Hull-Silk pool, Archer County, flowed 165 barrels of oil in 2 hours after 130-quart nitro shot in lower Strawn saturation at 4273-4314 feet. Rig has been skidded one location south to drill Wilson 3-E.

British-American Oil Producing Company has two active deep tests on its large lease block in eastern Baylor County, where a small pumper was completed last year from the Canyon at 2635 feet. The company's Green 1-L, H&TC Section 8, was drilling at 4310 feet, having missed the Canyon saturated zone, and will continue to the lower Strawn and Ellenberger. Jesse Cope 1, ¾-mile southwest of the discovery, was drilling at 5200 feet, with a 5500-foot depth obligation.

Cliff Camp Drilling Company et al's W. T. Lynch 1, Cooke County 4600-foot wildcat project and 3½ miles north of Woodbine, was drilling at 4100 feet. Nominal oil saturation was logged at 3135-54 feet and 3800-32 feet.

Montague County recorded a failure and another wildcat was nearing a decisive depth. Seitz-Comegys, Ltd.'s L. K. Guerin 1, R. H. Grimes Survey, 2½ miles south of the Davenport pool, encountered hard schist and conglomerate at 3710 feet, and abandoned at 3725 feet. Staley Oil Company et al's E. D. Nunley 1, N. S. Ussery Survey, 2 miles southwest of Montague, was drilling at 5015 feet. Formation samples at 4884-4900 feet carried slight oil stain.

Hamilton County wildcat showing high gravity oil

Ranger, Texas. — Development of the first oil production in Hamilton County was promised the past week when Wallace and Vickers' Lund 1, J. P. Bailey Survey, bailed a small amount of high gravity oil from Marble Falls lime at 3375-78 feet, having topped the lime at 3221 feet. Pipe will be set to try for a completion. This wildcat is near the north line of the county and 5½ miles northeast of the Pottsville two-well gas pool, discovered by Seaboard Oil Corporation in 1936 and later sold to Lone Star Gas Company. The gas is from the Marble Falls lime near the 2400-2500-foot level.

H. PAUL GRIMM, president of Bolsa Chica Oil Corporation, and former oil umpire of California, was elected chairman of District No. 15, which embraces Santa Barbara, Summerland, Conejo-Oxnard, Sargent, Half Moon Bay and Santa Paula-Newhall oil fields, and will serve as an active member of the Central Committee of California Oil Producers. This is about the first time since his "umpiring days," that Grimm has taken a keen interest in oil proration problems of California.

Neal H. Anderson, another former oil umpire, was elected vice chairman to serve with Chairman Robert E. Burns, for the Torrance-Hermosa district.

Grapeland producing area extended mile southwest

Tyler, Texas. — Expansion of the Grapeland gas-distillate pool, Houston County, one mile to the southwest became assured when Cities Service Oil Company's Hill 1, J. J. Procella Survey, cored sand, carrying gas with an odor of distillate at 5963-6000 feet. Top of the Woodbine series was logged at 5962 feet, with an elevation of 452 feet. Pipe was scheduled to be run late last week. The well is two miles northwest of the town, and will be the fourth gas-distillate producer for the area.

East Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Gregg County (Kilgore)—		
McVey et al, Dickson 6, blk 137	1200	3556
Anderson County (Wildcat)—		
Mayo & J. Cook, Southern Pine-Sun 1 (100-ac)	*	5284
Franklin County (Talco)—		
Nathan Pipe & Supply Co., Strickland 1	307	4301
Freestone County (Cayuga)—		
Champlin-Bass & Pickens, Harwell 2 (50-ac)	¶6½	4045
Houston County (Navarro Crossing)—		
Humble, Dailey 2 (1002-ac)	144	5853
Henderson County (Wildcat)—		
Tyler-Smith et al, Rowe-Baker 1	70	3149
Limestone County (Wildcat)—		
Richardson et al, Banks 1	*	3712
Titus County (Talco)—		
Humble, A. J. Blalock 1	454	4323

* Failures; † Junked; ¶ Million cu. ft. gas.

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Field	Rigs	Abercrombie Gauges	Other Gauges	No Gauge Being Used
Aransas Pass	36	29	2	5
East White Point	10	6	1	2
Woodsboro	7	3	3	1
Hyser	5	4	..	1
McFadden	3	3	..	..
Refugio	5	3	1	1
Goliad	1	1	..	..
Riverside	4	3	1	..
Driscoll	9	..	2	8
Luby	6	3	1	2
Clarkwood-Saxet	9	3	..	6
Turkey Creek	4	..	..	4
Flower Bluff	1	1	..	..
Alice	10	3	1	6
Laguna Madre	1	..	1	..
King	1	..	1	..
	112	62	14	36

Made in pressure ranges of 0-1000, 0-3000, 0-5000 lb. per sq. inch, for mud, water, oil, air, gas, or any liquid.

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ABERCROMBIE PRESSURE GAUGE

Southwest Texas Fields

Frio sand field is indicated southeast of Alice. Antonio Perez Garcia property yields Yegua pool.

Corpus Christi.—Jim Wells County added two more fields to its score for 1939 to bring the total to six. All of South Texas has provided only ten strikes for the year. In addition, the area added a new sand and an important extension to one of its new producing areas.

F. A. Gillespie and Son's Mary T. Shear 1, 7½ miles southeast of Alice, has set casing for completion in an oil sand in the Frio zone at 5440-45 feet after the well had been drilled to 6592 feet sidetracked. On a drill-stem test at 5426-45 feet, the test recovered 780 feet of 41.6-gravity pipe line oil, 20 feet of brackish water and showed 150 pounds working pressure in 25 minutes. A bottom hole bomb indicated 1025 pounds pressure. The potential discovery is located 4660 feet east of the road and 466 feet north of the south line of AB & M Survey, Abstract 16. The test is now being offset to the south by Erwin and the discoverers.

Another strike, made earlier in the week, is Texas Gulf Producing Company's Antonio Perez Garcia 1, in the Manuel Barrera Survey, Abstract 36, 10 miles northwest of Alice. It had been carried to the 6850-foot contract depth and was ready to set casing for completion. The well found sand and shale with gas odor at 6492-99 feet and broken oil sand from 6499-6518 feet. A drill-stem test of the full section recovered 250 feet of gas cut mud, 420 feet of 36.5-gravity oil, and showed 80 pounds working pressure in 43 minutes. The sand is in the Yegua zone. This discovery is of importance due to its depth in the geological column. It is the first production in Jim Wells County below the Jackson formation, hence a new play may be expected. It is on the south flank of the huge Armagosa gas structure, a further important development.

Opening New Sand

As the week closed, casing was set in Gravis, Doran & Buescher's Lillian Muil 1, which is extending production and opening a new sand more than one mile south of the Clark field of this county. It cored an oil sand at 5326-30 feet, and on drill-stem test at 5307-30 feet recovered 720 feet of 39-gravity crude, no water and showed 110 pounds pressure in 12 minutes. The well is located 466 feet from the south and 330 feet from the west line of the Fraelish subdivision. The discovery is producing gas and distillate from the Frio sand below 4800 feet, while the new strike is in the Vicksburg.

Magnolia Petroleum Company has made a location for Maun 1, 1¼ miles west of the discovery well of the new La Gloria field in Jim Wells County and shortly will move in rig. It is the second well for the field.

In Jackson County, Wynn Crosby's Kopkicky 1, Block 5, 4000 feet southeast of Broughton 1, in Francitas field, was flowing at the rate of 450 barrels of oil per day, through 3/16-inch choke with pressure of 1750 pounds on tubing and 2275 on casing. Pipe had been perforated at 7963-65 feet.

Seaboard Oil Corporation of Delaware's Wilson 3, north offset to the discovery oil well of Riverside, Nueces County, flowed at the rate of 250 barrels per day through perforations 5505½-10½ feet. The test showed 750 pounds working pressure through 3/16-inch choke. Gas/oil ratio was about 600:1. It is the second and better oil producer in the Riverside field. Completion of this well again placed the area in line for a development program. Previous tests, other than one oil well, have failed or showed gas.

A potential test on the Ike Howeth and Lewis Production Company test in the new pool west of Alfred in Jim Wells County rates that test at 135 barrels of 45.2-gravity crude per day through ⅛-inch choke with 825 pounds tubing and 1050 pounds casing pressure. The test, Adams 1, in Section 122, was completed in Vicksburg sand at 4666-74 feet.

Efforts to extend the East White Point field of San Patricio County one mile to the northeast failed when Paul G. Benedum's L. L. Phillips 1, SW SE Section 60, was abandoned at 6007 feet.

Parr Oil Company's W. K. Hoffman 1, in the southeast corner of the Springfield townsite, Jim Wells County, attempted to blowout at 5625 feet, but was killed with heavy mud. The well showed some oil on the ditch while attempting to go out of control. It likely will lead to the opening of another oil field for this county.

Southwest extension for White Creek field likely

Beeville.—An extension of 3500 feet southwest is considered likely with G. A. Gage, II, preparing to complete Cox-Adams-Honham et al 1, outpost of White Creek field of Live Oak County. It had an oil sand at 1292-1299 feet, but was carried to near 1500 feet. At that point it was tied up with a fishing job, then plugged back for completion at the above level. Luling Oil & Gas Company apparently has a failure in a northeast outpost to the producing area.

Two wells are holding key interest

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in Bee County's wildcatting program. Humble Oil & Refining Company's Fox 1, southeast of Beeville, was below 5000 feet and coring, while Magnolia Petroleum Company was near the base of the Yegua zone at 5075 feet in McKinney 1, a mile north of the original Tuleta production.

South Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CORPUS CHRISTI DISTRICT		
Hidalgo County—		
Dean, Guerra B-1 (Samfordyce)	140	2902
Jim Wells County—		
H. H. Howell, Campbell 1 (WC) ¾ mi w Alice city limits	*	5626
Live Oak County—		
Baker, Rossi 1 (WC) 2½ mi n Three Rivers	*	1800
Rosebrock Brothers, Rosebrock 1 (Oakville)	*	2805
Nueces County—		
Crighton, Lee 1 (Clara Driscoll)	500	5720
McAlester Fuel, State 1-A (No. 2)	600	4342
Seaboard, Luby 50 (Luty)	550	5064
Refugio County—		
Copano, O'Connor 26-B (Tomoconnor)	¶250	5920
O'Connor 4-C (Melon Creek)	¶6 & 75	5964
Coronado, Yarrow 7 (LaRosa)	550	6355
Quintana, O'Connor B-3 (Melon Creek)	¶250	5895
San Patricio County—		
Grote & Corgey, Peterson-O'Brien-Scrivner 1 (McCampbell)	1000	7150
Landrum-Jones, Brown 1 (McCampbell)	1000	7166
Nueces, Woodward 1 (East White Point)	700	5672
O'Bannion & Cadell, Williams & Cavitt 1 (McCampbell)	1000	7134
Plymouth B-1 Bailey (East White Point)	750	5665
Plymouth, Teeter 3 (East White Point)	600	5667
Slimp & Graham, Moeller 3 (McCampbell)	1000	7160
Welch, Fee 1 (East White Point)	600	5682
Victoria County—		
Transwestern, McFaddin E-11 (McFaddin)	500	4418
LAREDO DISTRICT		
Duval County—		
Arkansas, Parr 1 (WC) 4 mi w San Diego	*	5812
Coquat, Southland 1 (WC) 2 mi sw N. Sweden field	500	5298
Evans, Peters 1 (WC) Rancho Solo	*	2881
Humble, Duval County Ranch Co. 1-E (Eagle Hill)	450	2090
Magnolia, DCRC 23 (203) (Piedre Lumbre)	*	2665
Weil 32 (Hoffman)	75	2820
Porter, Mew 2 (Fitzsimmons)	500	4311
Republic, Society for Propagation of Faith 1 (WC) Rosita	*	4024
Sinclair Prairie, Garcia 2 (Tesoro)	356	5101
Jim Hogg County—		
Humble, Mestena 1 (WC) 12 mi s Hebbronville	*	7010
McMullen County—		
Ezzell, Fee 36 (Ezzell)	66	1475
Jones, Ezzell 77 (Ezell)	39	1565
Ezzell 79 (Ezzell)	192	1578
Earl Rowe, Miles 1, sec 5, wildcat.	*	1114
Starr County—		
Sun, Speer 1 (Sun)	350	5188
Webb County—		
Hardie, Garcia 1, blk 27 (WC)	*	1849
O'Hern & Ryan, Garcia 1 (Killam)	*	2502
Rowe & Scheig, Kelsay & Caulk 1, sec 64 (WC)	*	1511
Zapata County—		
Interstate Minerals et al, Lopez 5 (Mirando Valley)	¶35	1798
SAN ANTONIO DISTRICT		
Bastrop County—		
Dublin & Hood, Yost 3-a (Yost)	30	1676
Bexar County—		
Cook Bros., Russell 4 (Mission-Alta Vista)	†	1160
LeComte, Herbst 1 (WC) Leal sur	*	1260
Spuddder Oil Co., Kohler 3 (Von Ormy)	†	633
Caldwell County—		
Prairie Lea Prod. Co., Merriweather B-8 (Luling)	50	2089
Guadalupe County—		
Burton et al, Kendall 1 (WC) Santos Coy Gr.	*	400
Carter et al, Roamel 1 (Darst Creek)	*	2640
Glenn, Appling 1 (Spiller)	*	2382
Weigand Bros., Henry Willie 1-A (Darst Creek)	60	2628
Gonzales County—		
Elder, Wilderson 1 (WC) Ward League	*	350
Hockheim Dev. Trust, DuBose 1, (WC) Coffman League	*	2720
Williamson County—		
Fuchs, Schultz 1 (WC), West sur.	*	1730

* Failures; † Junked; ¶ Million cu. ft. gas.

New Duval County strike southeast of Longhorn

Laredo.—Duval County's newest oil field is expected to result from Rutland Oil Company and Frank J. Gravis' Atlee Parr 1, 7000 feet southeast of Longhorn production. The test topped the Hiawatha sand in the Cockfield at 5952 feet and on drill stem test at 5955-5967 feet developed 175 pounds working pressure in 20 minutes. It recovered 80 feet of oil and mud and 225 feet of salt water, the latter apparently coming from the bottom of the hole. The well was carried to 6143 feet, then casing was landed on bottom for completion through perforations.

It is 1650 feet south of the Villareal tract and 330 feet from the west line of the San Andres grant, and on a block of 1500 acres assembled by Gravis. It is reported that several trades are pending in the area with prices ranging up to $100 per acre in cash and ⅛ overriding royalty.

Interstate Minerals, Inc., and Edgar B. Younger's R. Lopez 1, Block 5, Section 113, in the edge of Mirando Valley, Zapata County, is classified as the discovery of a new producing zone. It was completed as a 35,000,000 cubic foot gasser from sand 1791-1798 feet, but later commenced spraying considerable 21 gravity oil. It was being tested through separator late in the week.

Condensed Statement of Condition of the

FROST NATIONAL BANK

SAN ANTONIO

At the Close of Business Wednesday, March 29, 1939

RESOURCES

Cash		$12,612,356.82
U. S. Government Obligations (all carried at par or less)		20,460,906.25
Investment Bonds and Municipal Obligations (all carried at par or less)		2,607,588.00
Stock in Federal Reserve Bank		64,500.00
Loans and Discounts		3,994,775.99
Interest Earned but not Collected		109,500.43
Building Account		978,205.39
Other Real Estate Owned		1.00
Total		$40,827,833.88

LIABILITIES

Capital Stock		$ 1,200,000.00
Surplus		950,000.00
Undivided Profits—Net		309,990.75
Reserved for Taxes, Interest, etc.		179,970.10
Interest and Discount Collected but not Earned		18,570.56
Dividends Declared but not yet Payable		48,000.00
Deposits: Commercial	$20,980,117.41	
Correspondent Banks	4,986,911.94	
Time	9,038,727.68	
Public Funds	2,854,434.17	
Other Deposits, Certified and Cashier's Checks, etc.	261,111.27	38,121,302.47
Total		$40,827,833.88

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SAN ANTONIO

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

Texas Gulf Coast

Producer extends Turtle Bay more than mile east.
Second Wilcox producer is completed in Ace field.

Houston. — Turtle Bay, Chambers County, was extended over a mile east by Stanolind Oil & Gas Company's Tassie Lotz 1, G. B. Jamison Survey, which flowed 346 barrels of 32.4 gravity oil in 22 hours through a ¼-inch choke with a tubing pressure of 1600 pounds and a casing pressure of 1800 pounds from Marginulina sands at 6547-6552 feet. It will start an active drilling campaign. Turtle Bay has been inactive for the past year because limits of the field were supposedly defined.

The second Wilcox oil producer was completed at Ace field, Polk County, when Shell Petroleum Corporation brought in Doucette 1, P. A. Sublett Survey, for 259 barrels of pipe line oil. Tubing pressure was 1800 pounds, casing pressure, 2000 pounds. It was completed at 7794 feet, about 40 feet lower than Peyton Brother's Kirby 1-C, the discovery Wilcox producer at Ace.

Matagorda Wildcat Produces

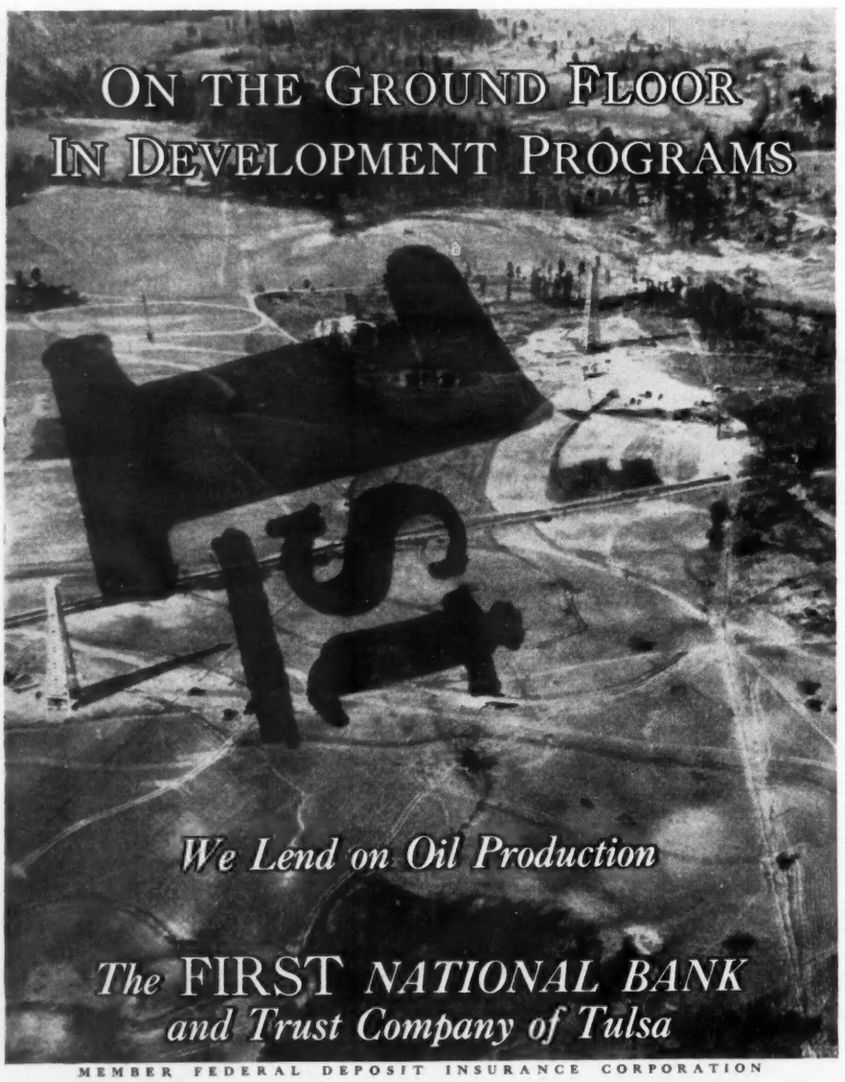
West of Palacios, Matagorda County, Sun Oil Company's Cavallin 1, was perforated with 45 shots from 8620 to 8645 feet and came in flowing 34 barrels of 42.8 gravity oil, 24 barrels of salt water and 1,947,000 cubic feet of gas daily through a 11/16-inch choke. Tubing pressure was 2900 pounds and casing pressure was 2700 pounds.

In the Podo area, Matagorda County, Pierce Estate's Fee 1, Rawls-Stout Survey, was plugged to 4556 feet and sidetracked at 4613 feet. The hole was drilled to 8214 feet in salt water sands. An electric log indicated a gas sand from 4700 to 4720 feet. This sand will be cored in the sidetracked hole.

Over a mile northwest of production at Sandy Point, Brazoria County, Hamman Exploration Company made a production test on Darrington State Farm 1, A. McFarland Survey, and recovered gas when the well was perforated with 30 shots from 8857 to 8887 feet. The well went dead and was shut in. Pressure on casing was 500 pounds, none on tubing. It will be reworked.

In the Algoa area, Brazoria County, Wynn Crosby's Wilson 1 is shut down at 9436 feet after test from 9430 to 9436 feet showed 50 stands of salt water.

On the southwest side of League City, Galveston County, George Echols' Ross-Stewart 3, perforated from 8940 to 8962 feet, was flowing into burning pits at the rate of five barrels per hour with a tubing pressure of 350 pounds and a casing pressure of 400 pounds. Echols has made location for Ross-Stewart A-2, a twin, 266 feet north of No. 2.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Texas Gulf Coast Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Eureka—		
J. Frazier, Shady Acres 2	600	7725
Houston Oil Co., Lackner D-2	623	8110
Fairbanks—		
Amerada-Stanolind, Mills 12	110	6855
Silberberg 5	150	6851
Stinson 2	159	6850
White 7	150	6846
White 11	110	6850
Friendswood—		
Humble, West Fee B-18	471	6043
West Fee B-19	480	6045
West Fee B-22	460	6041
Hastings—		
Stanolind, Ware 1	657	6080
Hull—		
South Oil Co., Taylor 1	192	3985
League City—		
Gulfboard-Salt Dome, Ross-Stewart 2	288	8695
Segno—		
Gulf, Wing 16	650	8069
Spindletop—		
Stanolind, Gladys City 103	285	3055
Thompsons—		
Humble, Lockwood-Sharp A-X-45	48	3604
Tomball—		
Humble, Stallones B-3	¶¼	5548
West Beaumont—		
Stanolind, Keith-Dowlen 7	80	5988
West Columbia—		
Frost-Dunnam, Parker 3	552	5216
Withers—		
Bankline Oil Co., Bann 1	156	5548
Texas Co., Pierce Estate B-29	120	5545
Pierce Estate C-58	¶10	5530
Jefferson County—		
Smith & Hebert, Turner 1, China area, J. Gerish sur	*	7513

* Failures; † Junked; ¶ Million cu. ft. gas.

South Louisiana

Schexnayder test gives St. James Parish new pool.

Eola extended northeast by completion in Wilcox.

Lake Charles.—A new gas and distillate field was discovered last week when Shell Petroleum Corporation completed Schexnayder 1 at LiPice, St. James Parish. This makes the third new field for the Louisiana Coast this year, second for St. James Parish. Casing was perforated from 10,929 to 10,940 feet and the well came in flowing 3,560,000 cubic feet of gas and a small amount of distillate daily through a 13/64-inch choke. Tubing pressure was 4570 pounds and casing pressure 4670 pounds. This is believed to be the highest pressure ever recorded on a well in South Louisiana. Hole was drilled to 11,002 feet in shale where 7-inch casing was set. Perforated from 10,929 to 10,933 feet, 3-minute drill stem test showed 450 pounds pressure and 2 gallons of distillate through ¼-inch chokes. Perforated again to take in an additional 7 feet to 10,940 feet, the well showed oil on a drill-stem test at 10,376 feet some time ago, and the well may be killed to test this sand.

Eola, Avoyelles Parish, was extended northeast when Pomo Petroleum Company's Sentell 1 came in flowing pipe line oil from Wilcox. Pipe was perforated with 191 shots from 8500 to 8564 feet and the flow was 360 barrels daily through a ⅛-inch choke; tubing pressure of 1650 pounds, casing pressure 1950 pounds.

Southeast of production at Eola, J. Edward Jones' Haas Investment Company 1 was drilling at 7840 feet in shale and should be near the producing sand the coming week. It is running about 10 feet lower than the discovery well on Cockfield and Sparta. Both the latter sands carried oil.

Amerada Petroleum Corporation, major leaseholder at Eola, has announced its first locations, north of production. Marchive 1 is 466 feet north and 466 feet west of NEc 6-2s-3e. Marchive 2 is 740 feet north and 1370 feet west of SEc 6-2s-3e.

New Sand at North Tepetate

A new gas and distillate sand was found at North Tepetate field, Acadia Parish, when Atlantic Refining Company's Doga 1 blew out at 8981 feet. Top of the sand was cored at 8976 feet. The well was making 166 barrels of 50.8 gravity distillate and 5,250,000 cubic feet of gas daily through a ⅛-inch choke. Tubing pressure was 4025 pounds. Seven-inch casing had been set at 8700 feet. The first well to show low gravity oil at North Tepetate field is Atlantic Refining Company's Klumpp 4. A drill-stem test at 8508 to 8519 feet in 28 minutes, with a 4000-foot water cushion, through ¼-inch chokes recovered 300 feet of 38 gravity oil. Bottom-hole pressure was 1950 pounds. Other wells completed in this sand have shown 50 to 55 gravity distillate and gas.

A new oil sand was discovered at New Iberia field, Iberia Parish, by The Texas Company's A. Renaudet. The well was perforated with 160 shots from 8930 to 8970 feet and came in flowing 150 barrels of 32.6 gravity oil daily through ¼-inch choke, with a tubing pressure of 140 pounds, to open the deepest producing horizon in the field.

Out in Vermilion Bay, Iberia Parish, The Texas Company's Vermilion Bay B-3 was drilling in shale at 7619

South Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Eola—		
Pomo Pet. Co., Sentell 1	360	8564
Jeanerette—		
Herton Oil Co., Banta 9	340	6777
Lockport—		
Continental, Moss 2	*	7869
New Iberia—		
Canal Oil Co., Sabatier 5	*	3239
Texas Co., Gonsoulin 2	*	9968
A. Renaudet 1	150	8970
Sulphur—		
Union Sulphur, Fee 840 (wo) otd 3740 ft	*	4140
Iberia Parish—		
Texas Co., Petit Anse, Avery Island salt dome, 59-13s-6e	*	11155

* Failures; † Junked; ¶ Million cu. ft. gas.

1st NATIONAL

STATEMENT OF CONDITION

At the Close of Business, March 29, 1939

ASSETS

Cash on Hand and Due from Banks	$ 53,693,825.12
United States Securities Owned	24,129,029.65
Stock in Federal Reserve Bank	321,000.00
Other Stocks and Bonds	2,726,649.45
Loans and Discounts	40,983,790.38
Furniture and Fixtures	293,986.90
Banking House	2,345,000.00
Other Real Estate	1,211,584.80
	$130,704,846.30

LIABILITIES

Capital Stock		$ 8,000,000.00
Surplus Fund		2,700,000.00
Undivided Profits, Net		3,479,367.55
Reserved for Taxes, Etc.		195,580.99
Reserved for Dividends		320,000.00
DEPOSITS		
Individual	$75,081,816.57	
Banks and Bankers	33,721,465.87	
U. S. Government	7,206,615.32	
		116,009,897.76
		$130,704,846.30

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feet last week after coring salt from 5970 to 7540 feet to indicate a "mushroom" type salt dome.

Tests 11 Horizons

The Texas Company has set some kind of a record in testing multiple horizons at one time. The operators last week set slotted pipe next to 11 sands and attempted a production test in State Lake Fausse Point 5, flank test at Fausse Point salt dome, Iberia Parish. Hole is bottomed at 12,125 feet and 1920 feet of blank and slotted pipe was set on bottom. When swabbed the test showed water and bridged at 4700 feet. It is being cleaned out for another test. After setting a back-pressure valve on bottom the following blank and slotted pipe was set progressively upward: 29 feet of blank, 29 feet of slotted pipe; 87 feet blank, 30 slotted pipe; 57 feet blank, 27 feet slotted; 87 feet blank, 27 feet slotted; 112 feet blank, 29 feet slotted pipe; 117 feet blank, 58 feet slotted; 88 feet blank, 29 feet slotted pipe; 58 feet blank, 29 feet slotted; 29 feet blank; 28 feet slotted pipe; 117 feet of blank, 28 feet of slotted pipe; 55 feet blank, 29 feet slotted pipe, and then 409 feet of blank. A 6-foot packer was set at 9853 feet and 2½-inch tubing was hung on the seal.

The first deep wildcat failure for Avery Island salt dome, one of the five salt domes in Iberia Parish, is The Texas Company's Petit Anse 1. The hole was drilled to 11,155 feet in shale; no shows of oil were encountered.

North Louisiana Fields

Shreveport, still most active area, adds three producers. More drilling is in prospect in extension area at Lisbon.

Shreveport.—Three new wells were added last week in the Shreveport field to boost to 27 the basal Glen Rose lime (Pettet) oil wells in this field, which continues to be North Louisiana's most active area. The Shreveport field has 11 operations drilling and 3 others rigging; Cotton Valley, next most active field, has 7 tests drilling, 2 testing, 2 shut down, 3 moving in materials, and 2 other locations. Two locations were under water last week.

All of the last week's wells at Shreveport were in the northeast part of the field, which is expected to get additional activity due to requisite offsets. Four new locations were made during the week.

Another operation that may make another oil producer for the northwest flank of the Lower Marine horizons at Cotton Valley, was testing last week after logging showings in both the "D" sand and "E" sand (Bodcaw) of the lower Marine. The test is Magnolia Petroleum Company's Hodges-Coyle 1, C SW NW 21-21n-10w, which logged oil saturated "D" sand from 8533-53 feet and Bodcaw sand with saturation from 8642-63 feet. Elevation is 242 feet and lower Marine was topped at 7997 feet. Total depth is 8663 feet.

The Vivian offshoot to the north of the old Pine Island field, Caddo Parish, which has seen a flurry of drilling for several weeks despite the lenticularity of the Tokio producing horizon there had only one completion during the week, this being a failure, but accounted for three new locations, one located a half-mile west of nearest production.

One fourth-mile north of his recently completed 1½-mile northwest extension pumper in C NW SE 28-21n-5w, Claiborne Parish, Lisbon district, E. T. Oakes, discoverer of Lisbon, made location for W. C. R. Ford 1, located 660 feet north and 666 feet east C 28-21n-5w. Regan Ford secured several offset 40-acre tracts to the west of Oakes' extension well and C. H. Lyons plans an early test in the proven limits of Lisbon, which at present has no drilling operations.

Open-flow capacity tests have been given recently to gas-distillate wells in the Bear Creek field, Bienville Parish, where several tests must start by June or leases will have to be renewed or forfeited.

Union Producing Company's Walker Unit 1, C SE 30-18n-8w, deep test at Sibley-Dubberly, Webster Parish, drilled last week at 9367 feet in hard sand and shale without having logged lower Marine. The test may go to 10,000 feet. A unitization agreement required drilling to 9000 feet and after that operators could test any horizon desired below the present producing Glen Rose zones around 5300-5400 feet. Last positive identification in present deep test was top of Travis Peak at 6910 feet; elevation is 256 feet.

Arkansas Fuel Oil Company's Gayoso 2, C SW SE 14-16n-10w, Bienville Parish, lower Marine wildcat, was drilling sand and shale at 7761 feet. Standard Oil Company of Louisiana and Joe Modisett's Frost Lumber Company 1, SE SE 14-23n-2w, Union Parish wildcat, drilled hard gray shale and sand streaks at 6719 feet; elevation is 155 feet. Top of Travis Peak was 4100 feet. It is a Permian lime test on a geophysical prospect.

Playing a supposed northeast "trend" from the Shreveport field toward the shallow Cartersville-Sarepta, and also

North Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo Parish (Pine Island-Vivian)—		
Tippett Oil Corp., Stallcup C-1, 27-22n-16w	*	2674
Caddo Parish (Shreveport)—		
R. E. Allison, Ellerbe 6, 27-18n-14w	384	5565
Ellerbe 7, 26-18n-14w	480	5561
Lisbon-Iberia Oil Co., J. P. Wallace 1, 26-18n-14w	360	5602
Wynne Dr. Co., Exchange Bank 1, 23-18n-14w	290	5561
Webster Parish (Shongaloo)—		
Magnolia, Roseberry Unit 1, 29-23n-9w	196	9347

* Failures; † Junked; ¶ Million cu. ft. gas.

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Cotton Valley—Greggton
Magnolia—Houston

between the Pine Island and Bellevue fields, Harry Hanbury and associates last week started moving in materials for a 6000-foot wildcat test to go to basal Glen Rose lime at W. P. Leonard 1, C NE NE 19-19n-13w, Bossier Parish, on a 5000-acre block. Location is about four miles northeast of production at Shreveport.

In the Blanchard area northwest of the Shreveport field and in Caddo Parish, Gulf Refining Company has increased its holdings to over 2000 acres in townships 18 and 19, ranges 15 and 16 west.

Stanolind Oil & Gas Company's 9000-foot test in the old Pine Island field, Caddo Parish, for which this company secured leases in 1937, is expected to have location made before May 1 in W½ 13-21n-15w. George A. McWilliams, Jr., is among those getting leases recently in the Pine Island area.

Shell Oil Company's soil analysis unit working recently in township 16 north, range 1 west, Jackson Parish, has completed its work there and departed. The company recently forfeited option on a block of lumber company acreage in township 12 north, range 8 west, Red River Parish, on which it recently completed a seismic survey.

Much activity continues "in the trend" in central Louisiana south of the Angelina-Caldwell Flexure. Two early Wilcox tests are expected on new lease blocks in LaSalle Parish. Adams-Louisiana Company is expected to drill such a test in townships 6 and 7 north, range 2 east, where it has been leasing recently west of Catahoula Lake. In the same parish southeast of Zenoria in the southeast part of township 9 north, range 2 east, Sloan and Zook Company has assembled a block of leases for a proposed 2500-foot test to the Wilcox. Atlantic Refining Company has a torsion balance unit in townships 9 and 10 north, range 1 east, LaSalle Parish.

Shreveport geology trip planned June 2 to 4

Shreveport.—The Shreveport Geological Society's fourteenth annual field trip will be made June 2, 3 and 4, to study the upper and lower Cretaceous of South Arkansas and North Louisiana. Headquarters will be the Grim Hotel, Texarkana, with a preliminary meeting the night of June 1. The trip will be made by bus. Inquiries and reservations for trip or guide book can be made with Floyd Miller, secretary-treasurer of the society, at 911 Commercial National Bank Building, Shreveport. C. C. Clark is president of the society and L. S. Harlowe is vice president. The field trip committee is composed of W. B. Weeks, chairman; R. T. Hazzard, vice chairman and associate editor; C. L. Moody, editor; W. D. Frazell, W. K. Link, H. H. Trager and L. W. Calahan. Fifteen supplementary papers and three maps and cross-sections will be included in the guide book.

"Texas Oil and Gas Since 1543"

"Texas Oil and Gas Since 1543," an interesting 487-page book by C. A. Warner, has been published by The Gulf Publishing Company, Houston, Texas. The author states that in view of the ever-increasing importance of the oil and gas industry in Texas and of the fact that the number of pioneers of this industry is decreasing from year to year, it has been deemed advisable to present a history of the industry in this state, based on authentic information and prepared for ready reference.

Ernest O. Thompson, member of the Texas Railroad Commission, states in the foreword for the book that "it is high time that we had a dependable text on Texas oil and gas. C. A. Warner has now supplied that need in a most thorough and dependable work. He has performed the task in a painstaking manner, and this book will be a valuable addition to the literature of Texas."

The book may be obtained from the publisher at $5.00 per copy.

Arkansas Fields

Two Permian lime fields add one producer each

El Dorado, Ark.—One well was completed last week in each of two Permian lime oil fields in Columbia County, namely, Magnolia (Kerr-Lynn) and Village. The new well at Magnolia brought total number of oil wells there to 17 and the new addition at Village was that fields sixth producer.

A test that will have an important bearing at Magnolia was delayed by fishing job at critical depth. This is

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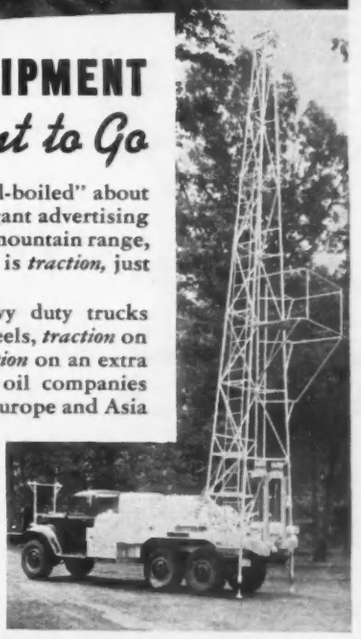

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Hassie Hunt's Talley 1, S½ NW SW 14-17-20, which is fishing pipe, after logging top of Buckner at 7466 feet; elevation is 366 feet. On this marker this test was said to have been 27 feet lower on this marker than any other operation in the field. It is an edge test. Total depth is 7548 feet in limey shale when fishing job occurred.

Erwin, Leach and associates' G. E. Patten 1, C south half NW NE 24-16s-24w, LaFayette County wildcat, has run 5½-inch casing to 3386 feet with plugged-back depth of 3480 feet, for a test of a showing logged just below anhydrite and in the Hill horizon of the Glen Rose. The hole was cored and drilled to 3604 feet. This test cut a fault at 2710 feet and logged first anhydrite at 3255 feet.

Plan test in Bradley County

El Dorado, Ark.—Edwin M. Jones and associates will drill a wildcat test soon on a 10,000-acre block centering around Section 14-17s-10w, Bradley County, in which Amerada Petroleum Corporation has an interest, having done geophysical exploration on this block. It is probable that this will be a Permian lime test.

Joe B. Zick plans two tests on his 16,000-acre block in Clark County, near Arkadelphia, one of which in NE SE SE 21-8-18, has already spudded. He plans another in Section 25-8-19. Both will be to the Paleozoics.

A. W. Baird and C. W. Robinson have assigned approximately 2000 acres of leases in Sections 27, 28, 29, 32, 33 and 34-17-22, Columbia County, near Experiment, to Standard Oil Company of Louisiana. West of Mount Holly, Dick Lawton leased 280 acres for McAlester Fuel Company in Section 26-16-19. Marine Oil Company has leased 160 acres in township 16, range 21, Columbia County and in the same county, Atlantic Refining Company has exercised its option on 320 acres in Section 16-18-22 for a Permian lime test to start by next August 1.

Arkansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Columbia County (Magnolia-Kerrlynn)—		
Southwood Oil Corp., Garrett B-1, 24-17-20	408	7512
Columbia County (Village)—		
Standard of La., Minnie Harris 1, 15-17-19	158	7415
Union County (Rainbow City-Champagnolle)—		
Snuggs, Sebersky et al, Jerry 1, 21-17-14	†	3195
Union County (Schuler)—		
Lion, Clay 1, 12-18-18	300	7695

*Failures; †Junked; ¶Mil. cu. ft. gas.

Arkansas permits

El Dorado, Ark.—Five drilling permits were authorized last week by the Arkansas Oil and Gas Commission, as follows: Columbia County: Standard Oil Company of Louisiana, Tena Crumpler B-1, 660 feet south and 665 feet east NWc NW NW 15-17-19; Lion Oil Refining Company, Crisp-Glasgow 1, C NE SE 23-17-20; Crisp-Glasgow 2, C NW SE 23-17-20; A. C. Garrett 1 C SE SE 13-17-20; LaFayette County: Standard Oil Company of Louisiana, J. Waters et al 2660 feet west and 560 feet north SEc NE SW 7-16-22.

Morse says Mississippi wildcat has live oil

Jackson, Miss. — Union Producing Company's J. R. Anderson 1, 3960 feet west of the NEc Section 12-8n-1w, near Flora in Madison County, is reaming to bottom at 5204 feet in green sand after running an electrical logging device to 5165 feet. Upon authority of H. M. Morse, supervisor of the state oil and gas board at Jackson, previous reports (THE OIL WEEKLY April 10 and April 17) that the well was showing some dead oil at 4437 feet were erroneous. Morse says, "The oil obtained from this well was a high grade lime oil of 34 gravity. The thickness of the sand was approximately 20 feet."

Interest in leasing and exploration continues about evenly divided between North Mississippi and South Mississippi.

In the southern part of the state, Gulf Refining Company continues to add to its block in Township 8 north, Ranges 3 and 4 east, Jefferson County. This company is reported to have secured 6000 acres in Township 2 north, Ranges 4 and 5 west. Wilkinson County, southwest Mississippi, from Wanette Oil Company. Sun Oil Company is acquiring available leases at the common corner of Townships 4 and 5 north, Ranges 9 and 10 west, Perry County. In Township 5 north, Ranges 9 and 10 west, Perry County, British American Oil Company is taking checker-boarded acreage. Gulf Refining Company has large holdings in this general area.

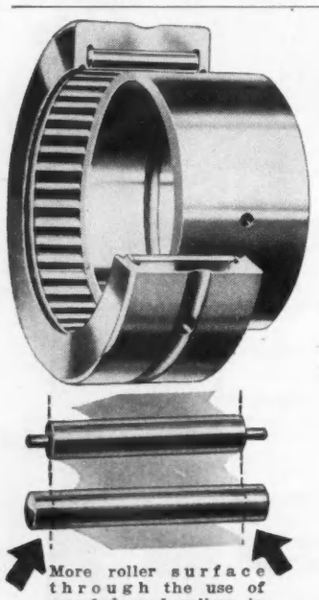
In North Mississippi, plans are under way to secure approximately 40,000 acres to supplement Amory Petroleum Company acreage recently acquired by the Public Service Company. The latter firms plans to clean out the four depleted gas wells in the Amory field, Monroe County, in an effort to revive gas production. They were completed in 1926 and 1927 and were the first commercial wells in Mississippi. P. J. McAlpine and associates, who have extensive holdings in northeast Mississippi and northwest Alabama, are adding to their holdings.

The Mississippi State Geological Survey has issued a memorandum stating that a structural "high" has been discovered in Township 11 north, Ranges 2 and 3 west, Yazoo County, by Frederick F. Mellen, supervising geologist of the W.P.A.-Mississippi State Geological Survey.

Second drilling test announced in Georgia

Mobile, Ala.—Renards Holdings has spudded H. M. Hicks 1, near Homerville, Georgia, in Clinch County, giving Georgia its second active drilling operation. In Pierce County, Georgia, Donald Clark's Adams-McCaskill 1, Land Lot No. 332 Fourth Land District, continues efforts to unlodge stuck drill pipe, total depth being 1000 feet.

Columbia Oil Company's State School Land 1, SE NE NE 8-2n-29e, Houston County, Alabama, is temporarily shut down at 2150 feet in Selma chalk. Union Producing Company is reported leasing in Clarke County, Alabama. Peninsula Oil & Refining Company's Cory 1, C NW 6-55s-34e, Monroe County, Florida, 41 miles west of Miami, was drilling in lime at 6210 feet. Contract depth is 6500 feet.



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New Mexico Fields

Lovington outpost checks low; edge well makes air.

Wildcat northwest of Maljamar passes up oil shows.

Hobbs, New Mexico.—An outpost test for Lovington pool, Lea County, was credited with checking low on structure, and a heavy flow of air, or non-inflammable gas was encountered by a well on the east edge of this new oil area.

Magnolia Petroleum Company's Selby 1, C NW NE 7-17s-38e, 1¼ miles east by south of production, logged base of salt at 2930 feet, or 879 feet below sea level, and was drilling at 3320 feet after cementing intermediate pipe string. It is lower than the 4 oil wells and 2 gassers.

Repollo Oil Company's State 2-182, near SW NE SW 31-16s-37e, blew out while drilling at 4108 feet, and made in excess of 40,000,000 feet of air, or air and gas daily. The flow failed to diminish after blowing for several days. It has open hole below 2975 feet.

Skelly Oil Company is starting operations on State 1-O, C SW SW 31-16s-37e, west offset to a producer. United Producing Company's Caylor 1, south offset to the same completed well, has resumed drilling after cementing surface pipe at 322 feet. Magnolia Petroleum Company's State 1-Q and State 1-R, both offsetting producers, were drilling at 3065 feet and 1260 feet, respectively.

Additional tests are due for the Lovington pool as result of the Texas-New Mexico Pipe Line Company having recently authorized construction of a 22-mile 6-inch extension line from the Monument field.

Carper Drilling Company et al's Taylor 1, SWc 30-16s-32e, was drilling at 4055 feet in lime, having passed up a small amount of free oil from saturation at 4006-19 feet. It is 2¼ miles northwest of Maljamar, oldest Lea County producing area.

A new wildcat for Lea County is Magnolia Petroleum Company's State 1-S, C NW SW 34-16s-34e, which has rigged up rotary. It is located 3¼ miles northwest of the discovery well of Vacuum, and is 2¾ miles northeast of an isolated producer completed last year on the Maljamar "high."

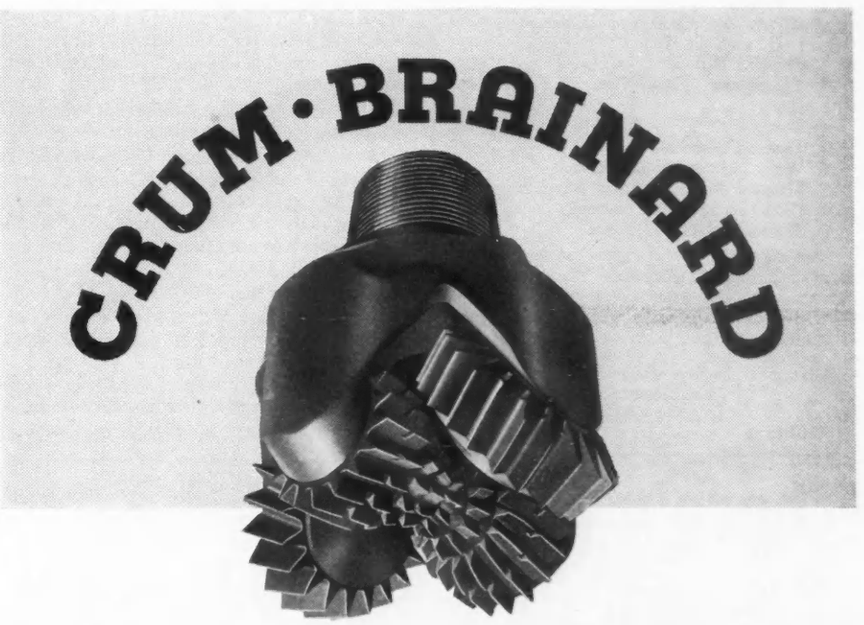
The Langlie sandy-lime area contributed 3 of the 9 new tests authorized for Lea County the past week. Phillips Petroleum Company and Pure Oil Company's Woolworth 5, C SW SE 33-24s-37e, situated at the junction of Langlie and Mattix areas, flowed 150 barrels of oil, with 3 percent fresh water, on 6-hour gauge at 3539 feet. Richmond Drilling Company's State 3-A, C SE SW 2-25s-37e, located on a farmout by The Texas Company, has landed surface pipe. Cities Service Oil Company's Dabbs 2, SW SW NW 23-25s-37e, has rigged up, and Anderson-Prichard Oil Corporation is starting operations on Wells-Conoco 6, C SW NW 5-25s-37e.

The Texas Company's State-Lieu 17-H, NW NW SW 19-20s-37e, near

New Mexico Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Quay County (Wildcat)—		
Martin & Son, Doaks 1, 3-9n-31e..	*	2572
Lea County (Eunice)—		
Gulf, State-Leonard 1-C, c se sw 36-21s-36e	597	3820
Lea County (Hardy)—		
Aloco Oil Co., Carson-Gulf 1, c sw se 28-21s-37e	504	3765
Lea County (Langlie)—		
Culbertson-Irwin-Sunray, Henry 3, swc 26-25s-37e	75	3325
Lea County (Mattix)—		
Humble, Williams 4, c nw nw 34-24s-37e	672	3530
Phillips-Pure, Woolworth 5, c sw se 33-24s-37e	600	3539
Lea County (Skelly)—		
Skelly, Sims 5, c nw se 33-22s-37e..	148	3705
Lea County (Vacuum)—		
Magnolia, State-Bridges 29, c sw sw 26-17s-34e	385	4725
Standard of Texas, State 2-6-34, c ne sw 34-17s-35e	648	4649
Texas Co., State 2-S, c sw sw 35-17s-34e	784	4675

* Failures; † Junked; ¶ Million cu. ft. gas.



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the junction of Eunice and Monument fields, flowed 10 barrels oil hourly through ¾-inch choke after deepening to 3874 feet. This test was rated at 42,162,000 feet of gas, with a spray of oil, at 3840 feet, and installed tubing packers after deepening to exclude the heavy flow of gas found above the oil zone. The company has rigged up to drill State-Lieu 18-H, C NE NW 19-20s-37e.

Two natural flowing wells were completed in the southwest portion of Vacuum. The Texas Company's State 2-S, C SW SW 35-17s-34e, tested 196 barrels in 6 hours through tubing, with the hole bottomed at 4675 feet. The flow declined from 41 barrels the first hour to 29 barrels the sixth hour. Magnolia Petroleum Company's State-Bridges 29, C SW SW 26-17s-34e, flowed 494 barrels in 18 hours through 30/64-inch choke after drilling to 4725 feet. The latter company's State 2-P, C SE SE 22-17s-35e, northeast edge of the field, swabbed 23 barrels oil in 2 hours after using 1500 gallons of acid at 4640 feet.

Amerada Petroleum Corporation resumed developments in Lea County after being inactive for several months and was drilling Johnson 2, C SW SW 27-24s-37e, Mattix area, below 680 feet.

Texas Pacific Coal & Oil Company's State 15-A, C NW NW 11-22s-37e, southwest edge of the prolific lime area between the Eunice and Penrose fields, was awaiting production test at 3840 feet. Base of salt was logged at 2800 feet, with an elevation of 3561 feet, indicating a low structural position.

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Rocky Mountain Fields

Leo sand at Lance Creek extends beyond Sundance

Casper, Wyo.—Ohio Oil Company last week extended the proven producing area of the Leo sand in the Lance Creek field, Niobrara County, ¼ mile to the north of former limits, with Agnes Rohlff 3, NE NE 32-36n-65w, in the second Minnelusa formation, making 105 barrels hourly through casing on initial test. Top of the producing formation was logged at 5150 feet and hole bottoms in the sand at 5300 feet. Completion of the new producer on the northern rim of the deep sand pool definitely establishes the limits of production in the Sundance horizon on the north and extends the Leo production considerably beyond the Jurassic sands. As the result of this test, some 6 wells, current marginal producers from the Sundance formation along the northern rim of the pool, will be deepened to the Pennsylvanian sands for recompletion.

Drilling has been resumed in several wells which have been shut down during the winter. In the Pilot Butte field, Fremont County, west central Wyoming, H. Kenyon Burch's Tribal 9. CNW NW 27-3n-1w, deep test, is plugging back from 1212 feet for recompletion at 733-752 feet where well originally completed for 13 barrels daily a year ago.

Consolidated Oil Properties is preparing to run 6⅝-inch casing before running a production test of oil shows encountered at 830-845 feet in Ewart 3, SW SE 16-1n-1w, deep test in the Sage Creek field, Fremont County.

Pilot Oil Company is spudding in with 15½-inch hole at 50 feet in Hoffman 8, CSW SW 22-3n-1w, new well in the Pilot Butte field, Fremont County. This is the first new well for the county this year.

Drilling is being started in Lincoln Oil & Gas Company's Tribal 5, CSW SE 23-1s-1e, in the Plunkett field, Fremont County. Operations have been shut down at 492 feet during the winter in this well.

In the Lake Valley field (or Eight-Mile Lake field), Carbon County, southern Wyoming, Producers Oil Company's Lake Valley 1, NW NW NE 14-20n-88w, is running 10-inch casing to bottom at 2016 feet preparatory to resuming drilling after a winter shut down.

Mountain States Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
COLORADO		
Grand County—		
Interstate O. & R. Co., Hinman 1, ne se nw 11-2n-81w	*	3920
Mesa County—		
Midwest Dr Dev Co., Callahan 1, ne nw se 30-8s-97w	*	3337
MONTANA		
Glacier County (Cut Bank Field)—		
Wm. Hanlon, 4 Allotted 128, sw se ne 12-32n-6w	15	2978
R. C. Tarrant, Long-Miller 7, ne sw ne 24-34n-6w	*	2798
Yukon Oil Co., Lungren 2, cne nw 26-37n-5w	*	2735
Toole County (Kevin-Sunburst Field)—		
Fulton-Commonwealth, Thompson 3, sw ne sw 28-35n-3	¶5	1670
A. E. Crumley, Fryberger 15, ne nw se 24-35n-3w	30	1621
Big West Oil Co., Gunderson 10, csl ne nw 19-35n-2w	6	1610
G & A Oil Co., Alrich 1, nw nw nw 26-35n-3w	10	1668

* Failures; † Junked; ¶ Million cu. ft. gas.

California Fields

Three wells have deeper show in Montebello area

Los Angeles.—Capable of yielding approximately 6000 barrels of 37-gravity oil per day, Standard Oil Company of California's Mushrush 2 was completed early last week, as one of the best wells in Wasco field, Kern County. It was swabbed in from 13,124 feet, 16-inch casing being cemented at 1517 feet, 10¾-inch at 8095 feet, and 7-inch at 13,060 feet. Ninety-seven feet of 5-inch liner was landed at 13,122 feet. Gas yield was placed at 1,130,000 cubic feet. A flow test was made with two chokes, one through a 1-inch, and another through a 36/64-inch choke, with 1105 pounds pressure on tubing and 1115 pounds on casing. Mushrush 2 has been choked in to 2000 barrels daily through a 22/64-inch choke and will be later shut in further to around 300 barrels daily, which conforms to the present schedule for the Wasco field.

What may eventually be classified as a new and deeper productive zone has apparently been discovered in the east end of the west Montebello extension by three wells slated for completion this week. Union Oil Company's La Merced 30, which bottomed originally at 8468 feet and plugged back to 7630 feet, started flowing 1100 barrels with a large water cut, but was killed to be replugged before another attempt is made to complete it. In the same area, Wood-Callahan Oil Company's Harris 1 has picked up a deep oil formation and is coring below 7500 feet with the expectation of bottoming around 7600 feet, or possibly deeper. During a formation test Harris 1 yielded considerable gas. Southeast of this project Graham-Loftus Oil Corporation's Coffman 1 is slated for completion, having bottomed at 7550 feet with 7-inch casing set at 7400 feet. It produced at the rate of 600 to 1000 barrels along with a slight cut.

California Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Los Angeles County (Aliso Canyon)—		
Tide Water, Porter 2	820	5200
Los Angeles County (Montebello)—		
Standard, Kaufman Fee 2	592	7255
Los Angeles County (Torrance)—		
Main Oil Co., No. 1	229	5155
Pacific Western, Marble Fee 17	310	4965
Harry Rilling, No. 1	630	5170
Ray W. Wilson, No. 3	300	5197
Los Angeles County (Wilmington)—		
Allied Petroleum Corp., No. (LB) 31	250	3353
General Petroleum, Harbor Comm. (LB) 21	406	2940
Signal Oil & Gas, Signal-L. B. Allen 1	320	4181
Orange County (Huntington Beach)—		
Southwest Exploration, State 11	275	4512
Orange County (Anaheim Area)—		
The Texas Co., A-13-1, e nwc 8-4-10 (W)	*	8977
Kern County (Arvin Area)—		
Superior, P. D. Jewett 1, nec 16-31-29 (Semi-W)	784	6400
Kern County (Elk Hills-Richfield Western Area)—		
Richfield, Western A-52-32, nec 32-30-25 (Semi-W)	1984	8793
Kern County (Canal)—		
Shell, KCL A-23-14, e nwc 14-30-25	1886	8338
Kern County (Midway-Sunset)—		
National Oil Co., No. 32, w e¼ c 35-32-23	245	2260
Kern County (McKittrick)—		
Westco Petroleum Co., Westco 1, w c 34-30-22	*	6495
Kings County (Kettleman North Dome)—		
Standard, No. 76-7Q, s w e¼ c 7-22-18	1270	8300
Ventura County (Ojai Area)—		
High Mesa Oil Co., Butcher 1, s w nec 16-4-22 (W)	*	1765
Santa Barbara County (Los Olivos Area)—		
General Petroleum, Chamberlin 1, s w nec Ro. Corrall de Quati	*	4310

*Failures; †Junked; ¶Mil. cu. ft. gas.

Arizona wildcat running an encouraging temperature

Phoenix, Ariz.—A high temperature gradient on Funk Benevolent Corporation's Fee 1, SE NE 27-13s-30e, Cochise County, has renewed hope for the well's success. A jump from 165° F. at 2430 feet to 274° F. at 6400 feet has indicated absence of any immediately underlying basement rock, although recent coring operations at 6538 feet revealed volcanic tuff and agglomerate. Shows of oil and gas have been frequent from 1700 feet downward and operators are attempting to shut off water for a swabbing test. No correlation of formations is available, but it appears that conglomerate in the lower 500 feet of hole may be basal Cretaceous. The well is about 5 miles southeast of another test, Arzberger 1, Section 19-15s-26e, which was abandoned last fall at 3298 feet with a bottom-hole temperature of 110° F., and near a 650-foot well which produced light oil, kerosene, and gasoline.

Chino Valley Oil Development Company's State 1, Section 20-18n-2w, Yava-

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pai County, topped Redwall lime (Mississippian) at 550 feet, encountered shows of gas at 685-730 and at 734-742 feet, and at last report was drilling ahead at 762 feet, with the underlying Temple Butte lime, uppermost member of the Devonian, believed close to the drill. The test is slated to investigate the flank of a northwest trending anticline with shows expected at 1800 feet. Yavapai County has another test in Ari-Copa Mining & Development Company's Puntenney 1, Section 27-18n-2w, which has been spudded in. Every previous test in the county has missed the structure and bottomed in igneous rock.

Pima County is getting its first test as R. W. Schenk's Boyce 1, Section 22-19s-17e, was spudded and drilled to 300 feet.

Michigan Fields

Major southern extension possible for Grandville

Mt. Pleasant, Mich.—A possible 1½ mile due south extension of Grandville pool, Kent County, appeared this week as A. S. Cochran et al's Chappin 1, NE SW Section 8-6n-12w, tested oil saturation in Traverse lime at 1837 feet. Top of the formation was checked at 1776 feet. Cochran's semi-wildcat is just outside the town of Grandville.

A second well in the Grandville area was cause of major interest from oil saturation in the Berea sand formation at 1107 feet, total depth, with saturation at 1090-96 feet. The well bailed about 5 barrels per day on a 3-day test. Operators were still cleaning out the first of the week after a 100-quart shot. The test is Borough & Foster's Slykhouse 1, Section 5-6n-12w.

Three wells in the Grandville pool previously had shown possible commercial oil in the Berea zone. One made 8 barrels natural, but in each case the formtaion was passed up for the deeper Traverse. The Berea in Grandville also produces dry gas, one well gauging 10 million feet.

Crown Development started to drill early this week on Johnson 1, Section 5-6n-12w, Kent County, after successfully casing 6-inch through the Berea at 1070 feet and getting a water-gas shut off. The test blew out on March 11 with 10 million feet of gas and was out of control until last week.

Columbia Township, Van Buren County, adjoining Bloomingdale on the west, currently is the hottest development area in the Southwestern Michigan district. Three separate pools (which may be connected) already have been opened in the township. J. Brooke Reed's Cooley 1, Section 14-1s-15w, a half mile west extension of the Clapsaddle pool, brought seven new starts this week. Reed's well completed for 840 barrels a day at 1247 feet.

Interest in state-owned wildcat acreage declines

Mt. Pleasant, Mich.—Interest in state-owned wildcat acreage showed a sharp decline with operators bidding off only 12,490 of the 23,593 acres offered by Lands Division of the Conservation Department in the April sale. All of the leases were listed as wildcat and located in central and north central Michigan.

Michigan Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Detroit-Allegan, County Farm 1, nw sw se 5-2n-13w	*	1620
Stewart Oil Co., Howerda 2, se nw nw 27-4n-14w	150	1474
Vic R. Wilson, Sutter 2, sw se sw 2-4n-13w	240	1597
Bridger Basin, Warfield 1, ne se 25-1n-13w	*	1454
Clare County—		
C. W. Teater, Van Horn 5, ne nw ne 3-18n-6w	75	3898
Van Horn 6, se nw ne 3-18n-6w	300	3901
Gulf, State 1, ne sw 28-19n-6w	700	3889
Kalamazoo County—		
W. J. Cline, Munson 1, nw ne nw 35-3s-12w	*	1268
Kent County—		
Smith Pet. Co., Plaster Co. 1, se sw sw 27-7n-12w	*	2320
Ogemaw County—		
Muskegon, Barber 4, se se nw 28-22n-2e	12	2716
Weber Oil Co., Zahm 3, nw nw nw 34-22n-2e	30	2666
Ottawa County—		
R. W. Utzinger, Longjohn 1, se ne nw 16-7n-14w	*	1735
Voorhees Dr. Co., Reible 1, se ne sw 36-7n-16w	*	4003
Van Buren County—		
Jetter Dr. Co., Snyder 1, nw ne sw 14-1s-14w	*	1451
Hugh G. White, Lackey 1, se se sw 19-1s-14w	*	1297
C. C. Goff, Miller 2, sw nw ne 24-1s-14w	2200	1358
Clapsaddle, Roan 1, nw se se 13-1s-15w	*	1201
Art Morris, Robertson 1, ne nw nw 23-1s-15w	*	1200
Harry L. Ames, Purvis 1, sw sw ne 26-1s-15w	*	1185

*Failures; †Junked; ¶Mil. cu. ft. gas.

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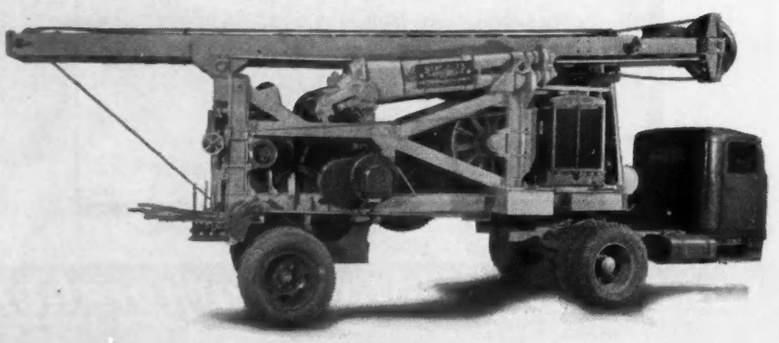

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WILDCAT REPORT
New Starts and Completions

STATE	WILDCATS STARTED		WILDCAT TEST COMPLETED							
			Total		Oil		Gas		Dry	
	This Week	This Year	This Week	This Year	This Week	This Year	This Week	This Year	This Week	This Year
Alabama	...	1	...	1	...	...	...	...	...	1
Arkansas	...	9	...	6	...	...	...	...	...	6
California	3	80	6	42	4	12	...	...	2	30
Colorado	...	...	2	3	...	...	...	...	2	3
Georgia	1	2	...	...	...	...	...	...	...	...
Illinois	41	151	26	97	...	6	...	...	26	91
Indiana	2	10	2	5	1	1	1	1	...	3
Kansas	4	55	4	53	4	19	...	1	...	33
Kentucky	...	5	2	8	...	4	...	...	2	4
Louisiana	3	43	3	27	...	5	...	...	3	22
North Louisiana	1	15	...	8	...	2	...	...	...	6
South Louisiana	2	28	3	19	...	3	...	...	3	16
Michigan	2	58	5	92	...	7	...	...	5	85
Mississippi	...	3	...	...	...	...	...	...	...	...
Missouri	...	1	...	...	...	...	...	...	...	...
Montana	...	1	...	...	...	...	...	...	...	...
New Mexico	1	12	1	2	...	...	...	...	1	2
New York	...	...	...	2	...	...	...	1	...	1
Oklahoma	4	58	2	50	...	7	...	2	2	41
Ohio	...	2	...	6	...	1	...	...	...	5
Pennsylvania	1	1	...	2	...	...	...	...	...	2
South Dakota	...	1	...	...	...	...	...	...	...	...
Texas	20	291	24	319	2	31	...	2	22	286
East Texas	...	38	4	28	1	1	...	...	3	27
North Texas	2	35	3	72	...	15	...	1	3	56
Gulf Coast	1	34	1	26	...	2	...	...	1	24
Panhandle	...	2	1	4	...	...	...	...	1	4
South Texas	13	117	14	139	1	9	...	...	13	130
West Texas	4	65	1	50	...	4	...	1	1	45
Wyoming	...	1	...	...	...	...	...	...	...	...
Total U. S.	82	790	77	715	11	96	1	8	65	611

CALIFORNIA

FIRST REPORTS

Los Angeles County—South Alta Oil Co.'s No. 1, 500 ft s 750 ft w nec 1-2n-15w, lcn.

Kern County—Western Gulf Oil's KCL-Panhandle 1, 2167 ft s 2312 ft w nec 3-32-26, grade. Little & Gilstrap's Keating 2, 225 ft s 1566 ft w nec 20-27-27, rur. H. R. Wright, Fay & Eyer's No. 1, 560 ft n 1120 ft w e¼ c 28-26-28, rur (formerly Vendome Oil Co.)

COMPLETIONS

Orange County—The Texas Company's A-13-1, e nwc 8-4-10, Anaheim area, abnd 8977 ft in shale and sand, 3700 ft salt water, little fluid 10 percent heavy oil recovered 7885-7915 ft.

Kern County—Superior's P. D. Jewett 1, s w nec 16-31-29, Arvin area, flows 784 B/D 30.1 grav 10 percent, 138 ft perf ldd 6300 ft, top oil zone 6100 ft, td 6400 ft. Richfield's Western A-52-32, s w nec 32-30-25, Richfield Western area, I. P. 1984 B/D rate, 48.4 grav 1.0 percent, P. P. 289 B/D, 52.1 grav 0.1 percent, 1522 MCF, top oil sand 8217 ft, top coarse oil sand 8627 ft, td 8793 ft.

Ventura County — High Mesa Oil Co.'s Butcher 1, s w nec 16-4-22, Ojai area, abnd 1765 ft in Sespe, tested wet.

Santa Barbara County—General Petrdleum's Chamberlin 1, s w nec of Ro. Corral de Quati, Los Olivos area, abnd 4310 ft.

COLORADO

COMPLETIONS

Grand County—Interstate Oil Co.'s Hinman 1, ne se nw 11-2in-8w, abnd 3920 ft.

Mesa County — Midwest Drilling Development Co.'s Callahan 1, ne nw se 30-8s-97w, abnd 3337 ft.

GEORGIA

FIRST REPORTS

Clinch County—Renards Holdings' H. M. Hicks 1 (unsectionized) near Homerville, spudded.

ILLINOIS

FIRST REPORTS

Bond County—Eason Oil Co.'s St. Louis Joint Land Bank 1, ne ne nw 24-4n-3w, Mills tnp, dr.

Champaign County—Sadorus Oil Co.'s Nogle 1, se se se 31-18n-8e, Tolono tnp, sd 170 ft.

Clinton County—Paul Moseback's J. Schemel 1, se se se 6-1n-3w, Santa Fe tnp, rigging up. Petroleum Service Ltd.'s V. Bott 1, nw sw sw 17-2n-2w, Carlyle tnp, dr.

Cumberland County — Manlton Petroleum Co.'s W. Wilcox 1, nw nw ne 23-10n-10e, Union tnp, sp.

Fayette County—C. E. Lange et al's J. C. Bloom 1, se se ne 19-6n-1e, Vandalia tnp, lcn.

Gallatin County—Coates et al's Green 1B, se se se 17-9n-9e, Gold Hill tnp, rigging up.

Jasper County — Thompson Drilling Co.'s Bowers 1, sw ne sw 7-8n-10e, Crooked Creek tnp, dr.

Jefferson County—Armstrong et al's Scott 1, se nw se 23-3s-2e, McClellan tnp, dr.

Lawrence County—Edward Gieck's Harry Gutteridge 2, c se nw 32-3n-12w, Lukin tnp, loc. Rosenthal et al's Wm. Norton 1, c nw nw 17-4n-10w, Russell tnp, fishing at 640 ft.

McDonough County—C. H. Chrysl et al's C. E. Wright 1, se se se 16-7n-4w, Blandinsville tnp, rig.

Madison County—Paul Moseback's Callahan 1, nw nw nw 17-3n-8w, Collinsville tnp, rig.

Marion County—Hawley Oil & Gas Co.'s Copple 1, sw sw ne 28-1n-1e, Centralia tnp, dr. Menhall et al's Hazlewood 1, ne ne sw 8-2n-1e, Sandoval tnp, dr. Texas Co.'s W. C. Wright 1, ne se ne 36-2n-1e, Odin tnp, dr. Heenan-Coe's Millican 1, ne nw nw 16-3n-4e, Omega tnp, dr.

Monroe County—Ames Drilling Co.'s Gummershiemer 1, nw 2-2s-10w, Waterloo tnp, dr.

Montgomery County—Cassens et al's Wilkering 1, nw sw ne 34-10n-2w, Nokomis tnp, dr.

Perry County—Lundy & Winkler's Stern 1, nw nw ne 8-4s-3w, Beaucoup tnp, dr. L. C. Simmel's Kimsey 1, nw ne se 5-5s-1w, Tamaroa tnp, rig.

St. Clair County—Algona Petroleum Co.'s Muehler 1, sw se ne 7-1n-6w, Mascontah tnp, dr. Skye & Benson's H. Schulte 1, sw sw nw 27-1n-10w, Sugar Loaf tnp, dr. Chas. Wise et al's Tarlton 2, sw nw sw 27-1n-10w, Sugar Loaf tnp, dr. Hempen et al's Mueller 1, c s nw sw 34-1n-10w, Sugar Loaf tnp, dr. Hempen et al's Theilmann 1, c w nw sw 34-1n-10w, Sugar Loaf tnp, shut down. Dr. James McDain's Joseph F. McNulty 1, sw sw se 32-2n-7w, O'Fallon tnp, dr. Tanner & Melburne's Miller Estate 1, sw sw ne 29-2s-7w, Athens tnp, dr.

Sangamon County—A. C. Leathers' Workman 1, nw se se 28-15n-6w, Curran tnp, shut down.

Shelby County—Harris et al's Skinner 1, nw nw nw 29-10n-1e, Oconee tnp, dr.

Tazewell County—Morton Oil & Gas Co.'s Wm. Strunk 1, nw nw se 18-25n-3w, Morton tnp, rig.

Wabash County — W. M. Bartlett's C. J. Stansfield 1, sw se se 19-2s-13w, Keensburg tnp, rig.

Washington County — Thompson Drilling Co.'s Musial 1, se sw nw 19-3s-1w, Dubois tnp, dr. Pollack's Leibrock 1, se se sw 2-3s-3w, Pilot Knob tnp, dr. J. N. Webster et al's Oexeman 1, sw ne sw 5-3s-3w, Pilot Knob tnp, dr. Phillips Petroleum Co., Hunleth 1, c ne nw ne 32-3s-4w, Oakdale tnp, rig.

Wayne County—A. J. Albright's Collins 1, nw nw se 24-1s-9e, Massillon tnp, rig. Carl Robinson's Carson Oakley 1, c nw ne ne 34-2s-8e, Barn Hill tnp, rig. R. D. Porter's Klemicke 1, ne se sw 15-2s-9e, Leech tnp, shut down. New Penn Development Co.'s J. E. Baker 1, c se nw nw 21-2s-9e, Leech tnp, rig.

White County—Mazda Oil Co.'s Carmi Orphanage 1, se se ne 22-5s-9e, Carmi tnp, dk. W. M. Angle et al's Storms Heirs 1, c w se sw 14-6s-9e, Heralds tnp, loc.

COMPLETIONS

Clark County—Miller & Miller's K. & E. Young 1, ne nw ne 17-11n-14w, Parker tnp, abnd in St. Louis lime at 505 ft.

Clay County—Kingwood Oil Co. and Gulf Refining Co.'s Davis 1, nw se se 26-5n-5e, Larkinsburg tnp, top St. Louis 2608 ft, abnd 2685 ft.

Clinton County—Noelkemper et al, C. M. Kile 1, se se ne 11-3n-3w, Wheat Field tnp, top Bethel 1130 ft, abnd 1170 ft. Lindsey Bros. and British American Oil Co.'s Boenhoff 1, nw nw ne 34-3n-4w, St. Rose tnp, Ste. Genevieve 1104 ft, abnd 1212 ft.

Crawford County—E. E. Carwood et al, L. N. Toehill 1, w se nw 31-6n-11w, Montgomery tnp, abnd in Pennsylvanian at 930 ft.

Edgar County—Black & Moore's Sturgell 1, c nw ne 12-12n-11w, Kansas tnp, top Devonian at 1968 ft, abnd 2028 ft.

Fayette County—Schriber & Martin's Magnus 1, ne se sw 11-5n-2e, Wilberton tnp, top Cypress 1782 ft, abnd 1817 ft.

Gallatin County—Delta Drilling Co.'s Stenson 1, se sw 9-9s-9e, Gold Hill tnp, abnd in Ste. Genevieve at 2795 ft. Coates et al's Green 1, sw sw sw 16-9s-9e, Gold Hill tnp, top St. Louis 2698 ft, abnd 2711 ft.

Green County—Louis C. Simmel's Frank Stelle 1, ne ne se 1-8n-14w, Woodville tnp, abnd in Ordovision at 444 ft.

Lawrence County—Kitchen & Wilson's R. A. Ackman 1, w se se 19-3n-11w, Dennison tnp, abnd in Pennsylvanian at 500 ft. Rockstead et al's Ullrich 1, se sw ne 20-3n-13w, Christy tnp, abnd in Pennsylvanian at 725 ft. Joe Young et al's Bierhaus 1, sw ne 13-4n-11w, Russell tnp, top Bridgeport 740 ft, abnd 825 ft.

Macoupin County — W. G. Dillen et al's Keele 1, se se ne 32-10n-9w, Western Mound tnp, top Silurian 1065 ft, abnd 1540 ft.

Madison County — Penn-Illinois Oil Co.'s Hurlbrink 1, ne ne ne 19-4n-8w, Edwardsville tnp, abnd in Devonian at 1415 ft.

Randolph County—Hamlin et al's Albert Anderson 1, nw ne nw 12-4s-6w, Tilden tnp, top Salem 1265 ft, abnd 1340 ft. Dr. Seward's H. Rehiner 1, c se se ne 19-4s-7w, Red Bud tnp, abnd in Ordovision at 1810 ft.

Saline County—Dr. I. W. Sigel et al's Choisser 1, ne nw nw 5-8s-7e, Eldorado tnp, abnd in Pennsylvanian at 1405 ft.

Shelby County—Independent Producers & Refiners' B. Derst 1, nw nw nw 17-11n-2e, Tower Hill tnp, top St. Louis 1772 ft, abnd 1788½ ft. Tatum et al's Brownback 1, se ne nw 25-12n-2e, Rural tnp, abnd loc.

Wabash County—Hoffman's Clyde King 2, ne se ne 35-2n-12w, Wabash tnp, abnd in B. Pennsylvanian at 1400 ft.

Washington County—A. J. Moulton's J. L. Dennis 1, sw ne ne 14-3s-3w, Pilot Knob tnp, abnd lcn.

Wayne County—C. C. Harwell et al's Elson Fitch 1, c n sw ne 11-1n-8e, Elm River tnp, top Ste. Genevieve 3058 ft, abnd 3198 ft. Weinert, Inc.'s Leslie Cunningham 1, c s nw ne 27-2s-8e, Barn Hill tnp, top Ste. Genevieve 3320 ft, abnd 3507 ft.

White County—Robinson's Cora Springer 1, ne sw nw 18-4s-8e, Mill Shoals tnp, abnd in L. Mississippian at 3608 ft. Price & Massey's Sam J. Higginson 1, nw nw ne 22-4s-10e, Phillips tnp, top St. Louis 3247 ft, abnd 3275 ft.

INDIANA

FIRST REPORTS

Posey County—Kenilind Oil Corp.'s Inez Montgomery 1, ne ne 9-4s-12w, 2 mi northeast of Poseyville, loc.

Vanderburgh County—Robert Moore and Earl Ford's George Steinkamp 1, sw sw 5-7s-11w, sp.

COMPLETIONS

Orange County—R. S. Hayes' (Yangling and Hayes') Ralph Baker 1A, sw se nw 29-3n-2w, northwest tnp, abnd in St. Peter, 3226 ft.

Spencer County—W. W. Damron's Shelby Wright 1, se sw ne 19-7s-6w, Ohio tnp, top Waltersburg 890 ft, 5,000,000 cubic feet gas, td 894 ft.

KANSAS

FIRST REPORTS

Cowley County—Lloyd et al's Chamness 1, nec sw 35-30-3e, lcn. Carlock et al's Houston 1, sw se sw 3-31-4e, rur.

Johnson County—OK Supply Co.'s Knabe 1, c ne nw 15-14-22e, mim.

Ness County—Kelly's Ryan 1, nec sw 24-16-22w, pits.

COMPLETIONS

Barton County—Martin et al's Feltes 1-A, nw sw se 8-16-12w, three-quarter mile n Beaver pool, top Topeka 2680 ft, pay 2885-90 ft, td 2906 ft, completed, 2546 barrels, gr 35. York State Oil Co.'s Marchand 1, cel ne ne 24-20-12w, 3 mi sw Ellinwood pool, top Topeka 2710 ft, top Lansing 3103 ft, top Arbuckle lime 3308 ft, td 3316 ft, acidized 3000 gals, pay 3315-16 ft, 559 barrels, 40 gr.

Marion County—Johnson et al's Miltz 1, swc 24-17-4e, east Lost Springs pool, top Chat 2340 ft, shot 90 qts, td 2400 ft, pumped 5 barrels, completed.

Russell County—Skelly Oil Co.'s Carter 1, csl sw ne 33-14-13w, w Letsch pool, top Lansing 2824 ft, td 2869½ ft, acidized 8000 gals, 2845-50 ft 60 shots, 524 barrels completed.

KENTUCKY

COMPLETIONS

Daviess County—W. E. Hupp et al's H. A. Reno 2, near Highway 60 in western part of county, abnd in Mississippian lime, 1982 ft.

McLean County—Fred Phillips' C. A. Montgomery 1, 1 mi west of Nuckols, abnd in McClosky, 1835 ft.

SOUTH LOUISIANA

FIRST REPORTS

Beauregard Parish—California Co.'s Long Bell Lbr. Co. 1, Bannister area, 990 ft n and 1650 ft w of sec of sec 23-4s-9w, lcn.

West Feliciana Parish—Donkin & Smith's Montgomery 1, Weynoke prospect, 1900 ft sw along se line of sec 90 from sec, thence nw at right angles in sec 90-1s-3w, lcn.

COMPLETIONS

Iberville Parish—California Co.'s Schwing 5, Bayou Sorrel area, 2750 ft s, 330 ft w of nwc of sec 96, in sec 95-10s-10e, flowed hot salt water 11,388 ft, abnd.

Vermilion Parish—Eberhart & Son's Sabnier 1, 3630 ft ne of swc, 660 ft n of se line, sec 54-13s-5e, Erath area, abnd 1595 ft.

NORTH LOUISIANA

FIRST REPORTS

Bossier Parish—Harry Hanbury and associates' W. P. Leonard 1, c ne ne 19-19n-13w, moving in material. (6000 ft. test).

MICHIGAN

FIRST REPORTS

Allegan County — Tamblyn Development's McLaughlin 1, se ne ne 26-2n-12w, lcn.

Kalamazoo County—Cecil Steele's Budrose 1, nw ne sw 8-4s-11w, dr.

COMPLETIONS

Allegan County—Detroit Allegan's County Farm 1, nw sw se 5-2n-13w, Traverse 1549, so 1554, abnd 1620 ft.

Kalamazoo County—W. J. Cline's Munson 1, nw ne nw 35-3s-12w, abandoned in Traverse 1268 ft.

Kent County—Smith Pet. Co.'s Plaster Co. 1, se sw sw 27-7n-12w, abnd 2320 ft.

Ottawa County—R. W. Utzinger's Longjohn 1, se ne nw 16-7n-14w, abnd in Traverse 1735 ft. Voorhees Drilling Co.'s Reible 1, se ne sw 36-7n-16w, Traverse 1535 ft, so 1578 ft, abnd in Trenton 4003 ft.

NEW MEXICO

FIRST REPORTS

Lea County—Magnolia Pet. Co.'s State 1-S, c ne sw 34-16s-34e rur.

COMPLETION

Quay County—N. H. Martin & Son's Doaks 1, 3-9n-31e, abnd 2572 ft.

OKLAHOMA

FIRST REPORTS

Hughes County — Carter's Hamilton 1, c w½ ne sw 33-4n-9e, td 4247 ft, 37.5 million cubic feet gas, shut in.

Pottawatomie County—I. T. I. O. Co.'s Lambert 1, c e½ nw ne 6-5n-2e, lcn. Cooper's Strawn 1, sec sw 32-8n-5e, lcn.

Seminole County—Culber et al's Burton 1, sw nw se 3-5n-5e, dr.

COMPLETIONS

Grady County—Henry's Thomas 1, ne se ne 9-5n-7w, 3 mi ne Chickasha gas pool, td 3007 ft, abnd.

Greer County—Tidford's Meyers 2, c e½ se nw 25-7n-21w, otd 881 ft, abnd, 1 mi ne Grantie pool.

PENNSYLVANIA

FIRST REPORTS

Beaver County—Columbian Fuel Co.'s Linnenbrink 1, ¾ mi north of Ohio River Dam No. 5, rig for an Oriskany test.

EAST TEXAS

COMPLETIONS

Anderson County—J. G. Mayo-J. C. Cook et al's Southern Pine Lumber Co.-Sun 1, 330 ft out of nwc of 422-ac tract, or 550 ft fr m/s/se and 330 ft fr sw lines of R. Erwin sur, 2 mi w Slocum, elev 412 ft, Pecan chalk 4200-4574 ft, Austin chalk 4997-5150 ft, top Woodbine series 5217 ft, sand 5276 ft, abnd 5284 ft.

Henderson County—A. J. Tyler-C. C. Smith & Richards-Holloway's Rowe-Baker 1, 1160 ft fr w and 150 ft fr s lines of J. T. Childers sur, elev 320 ft, Pecan chalk 1855-1985 ft, Austin chalk 2650-2725 ft, top Woodbine series 3135 ft, oil pay 3143-49 ft, pumped 528.16 bbls fluid est. 99½ bbls cut oil, or 70 bbls net oil initial.

Limestone County—Harvey Richardson et al's Banks 1, 900 varas fr nw and 700 varas fr sw lines of B. Davis 1, elev 516 ft, Pecan chalk 1985-2035 ft, cut fault 2670 ft, top Austin chalk 2982 ft, abnd in Woodbine 3697-3712 ft.

Wood County—Geo. Strake et al's W. G. Farrier 1, 350 ft fr s and 330 ft fr w lines of 76.7 acre tr, or 5400 ft fr w and 3000 ft fr n lines of Jesse Walker sur, elev 397 ft, top Woodbine 4400 ft, top Georgetown lime 4800 ft, top Paluxy series 6110 ft, abnd 6507 ft after testing water from 48 shot holes 3912-23 ft.

WEST TEXAS

FIRST REPORTS

Ector County—Landreth Prod. Corp.'s W. Frank Cowden 1, c sw nw T&P sec 10, blk 44, T-1-N, lcn.

Glasscock County—Shell Oil Co., Inc.'s A. D. Neal 1, nw nw se T&P sec 38, blk 33, T-3-S, portable rotary, cem sur pipe.

Jones County—J. G. Gillespie et al's J. D. Samples 1, ne ne nw sec 45, Deaf & Dumb Asylum Lands, lcn.

Presidio County—Marfa Oil Co.'s Fischer 1, 475 ft out of sw cor nw¼ GH&SA sec 31, blk 8, lcn on 74,800-acre block.

COMPLETION

Kent County — B. Dolman et al's C. V. O'Keefe 1, 330 ft fr n and 2290 ft fr w lines H&GN sec 50, blk 1, abnd 300 ft.

NORTH TEXAS

FIRST REPORTS

Archer County—Swink-Roberts & Swink's R. O. Andrews 1, 550 ft fr e and 150 ft fr s lines sec 1807, TE&L Co. sur, mim.

Montague County—W. M. Frank et al's Cochran Bros. 1, 150 ft s and 450 ft e of se cor of Campbell tract, Gaston sur, but in W. Harvey sur, A-329, 3 mi e and 1 mi n of Ringgold, mim for 2000-ft test.

COMPLETIONS

Archer County—Piper & Wilson's S. M. Cowan 1, 450 ft fr e and 1020 ft fr n lines blk 49, Jefferson C.S.L. sur, Gunsight 1018-21 ft, abd 1125 ft. Shell Oil Co., Inc.'s J. H. Turbeville 1, 150 ft fr n and 246 ft fr w lines sec 170, R. Carson sur, Gunsight 1482-84 ft, abnd 1544 ft.

Wichita County—Deep Rock Oil Corp.'s Mackechney 3, 350 ft fr n and 275 ft fr e lines sw¼ blk 18, league 2, Denton C.S.L., abnd 1219 ft.

SOUTH TEXAS

FIRST REPORTS

Bastrop County—H. Deskin's Millner 1, 150 ft s and e lines 162-ac tr, Standifer sur, prep to move in.

Burleson County—Peerless O&G Co.'s Engel 1, 1000 ft out of se cor 152-ac tr, Lastley League, lcn.

Caldwell County—McNeill Pet. Co.'s C. L. Huff 1, 150 ft n of railroad, 1400 ft nw line of 150-ac tr, Solomon Seal League, drilling below 1700 ft.

Duval County—Republic Production Co.'s Society for Propagation of the Faith, 990 ft nw line, 330 ft ne line sur 549, moving in. Yoakam, Gorman & Daubert's Kreis 1, 330 ft n and w lines of H&GN sur No. 68, moving in on Humble farmout.

Kendall County—C. M. Dewey's Seiden-

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sticker 1, 300 ft s of road, 1220 ft w line of Cherino Survey No. 18, rigging up.

Live Oak County—Harry Hotchkin's Hamilton 1, 330 ft s and e lines blk 12, H&GN sur No. 3, moving in.

McMullen County—Patada Pet. Co.'s McCain 1, 150 ft w line, 725 ft n line blk 15, Heatley sub, Vela sur No. 200, moving in.

Milam County—Jurvt abd Ckiyd's Von Gonten 1, 200 ft e line, 2125 ft s line 67-ac tract, Delgado sur, loc.

Nueces County—Seaboard Oil Corp.'s LaPrelle 1-A, 3100 ft s line, 1178 ft e line 322.4-ac tract, blk 9, R&W sub, 10 mi w Chapman ranch, rigging up.

Refugio County—Rutherford & Royal's Jurica 1, 466 ft s and w line se¼ sec 37, Johnson and Pugh sub, prep to move in.

Travis County—H. F. Steif's Glass 1, 500 ft n line, midway e and w lines 25-ac lease, Gilleland sur, lcn.

Val Verde County—H. N. Prince's Harrison 1, 400 ft e line, 1500 ft n line sec 20, block 1, loc.

Williamson County — Wolters & Roser's Nelson 1, 360 ft s line, 1620 ft 2 line 620-ac tr, Toby sur, lcn.

COMPLETIONS

Bexar County—C. J. LeComte's Herbst 1, 150 ft sl and wl of 200-ac tract, M. Leal survey, abnd 1260 ft in Austin chalk.

Duval County — Arkansas Fuel Oil Co.'s Parr 1, 990 ft n and e lines Saenz survey No. 12, abnd 5812 ft. Henderson Coquat and Anselma Oil Co.'s Southland 1, 466 ft s and e lines section 7, completed in sand 5286-98 ft, 7-in csg at 5287 ft, flowed 145 barrels pipe line oil 24 hours 5/32-inch choke, 620 pounds tubing and 1250 pounds casing pressures. Opened Southland field. Republic Production Co.'s Society for Propagation of the Faith, 1000 ft n line, 2500 ft westerly w line J. Poitevent survey 549, abnd 4024 ft.

Gonzales County—Otto Elder's Wilderson 1, 150 ft n line, 1500 ft w line 108-ac tract, Ward 1/3 League, abnd below 350 ft. Hockheim Dev. Trust's DuBose 1, 300 ft sw line, 150 ft nw center of se line of 594-ac tr, E. Coffman league, abnd 2720 ft.

Guadalupe County—Burton et al's Kendall 1, 310 ft sw line, 1180 ft se line 189-ac tr, Santos Coy sur, abnd 400 ft in Edwards lime.

Jim Hogg County — Humble's Mestina 1, 2332 ft n line, 1399 ft e line s one-half section 3, P. Blancas gr, abnd 7000 ft.

Jim Wells County—H. H. Howell's Campbell 1, 330 ft n and e lines 60-ac tr, sec 4, Lavaca Grant, abnd 5626 ft.

Live Oak County—H. F. Baker's W. Rossi 1, 480 ft n line, 1254 ft e line 136-ac lse, B. Haughey sur, abnd 1800 ft.

McMullen County—W. Earl Rowe's E. L. Miles 1, 4290 ft s line, 990 ft e line sur 5, Miles Ranch, abnd 1114 ft in Mirando.

Webb County—Joe Hardie's Garcia 1, 330 ft n and w lines ne¼ blk 27, Ojuelos Grant, abnd 1849 ft. Rowe & Schieg's Kelsay & Caulk 1, 330 ft n and e lines sec 64, blk 2, abnd 1511 ft.

Williamson County—Fritz Fuchs Schultz 1, 1020 ft s line, 1080 ft w line 109-ac tract, J. West sur, abnd 1730 ft.

TEXAS PANHANDLE

COMPLETION

Roberts County—J. T. Whitlock et al's B. J. Cunningham 1-a, 380 ft fr n and 330 ft fr e lines sw¼ H&GN sec 74, blk M-2, elev 3018 ft, 1st water 3398 ft, abnd 4400 ft.

TEXAS GULF COAST

FIRST REPORTS

Brazoria County — Hamman Exploration Co.'s State Prison Farms 1-B, Sandy Point area, 1400 ft fr railroad, 466 ft n of s line of Bingham sur, lcn.

COMPLETIONS

Jefferson County—Hebert & Smith's S. Turner 1, China area, 466 ft out of the nec of n 20-acres of a 100-acre tract in J. Gerish sur, topped Discorbis at 5331 ft, Heterostegina 5659 ft, abnd 7513 ft.

Texas A. & M. chemistry graduates seek connections

An interesting booklet on the graduating class in the chemical engineering department of the Texas Agricultural and Mechanical College, College Station, Texas, has been issued by the department.

The graduating class consists of 40 men and the booklet contains pictures of the men, personal data on them and the subjects covered by the department. Companies interested in adding recent graduates from a chemical engineering department can secure copies of the booklet by writing C. C. Hedges, head of the department at College Station.

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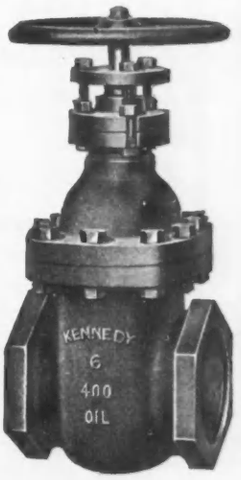

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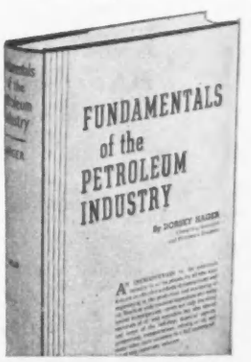

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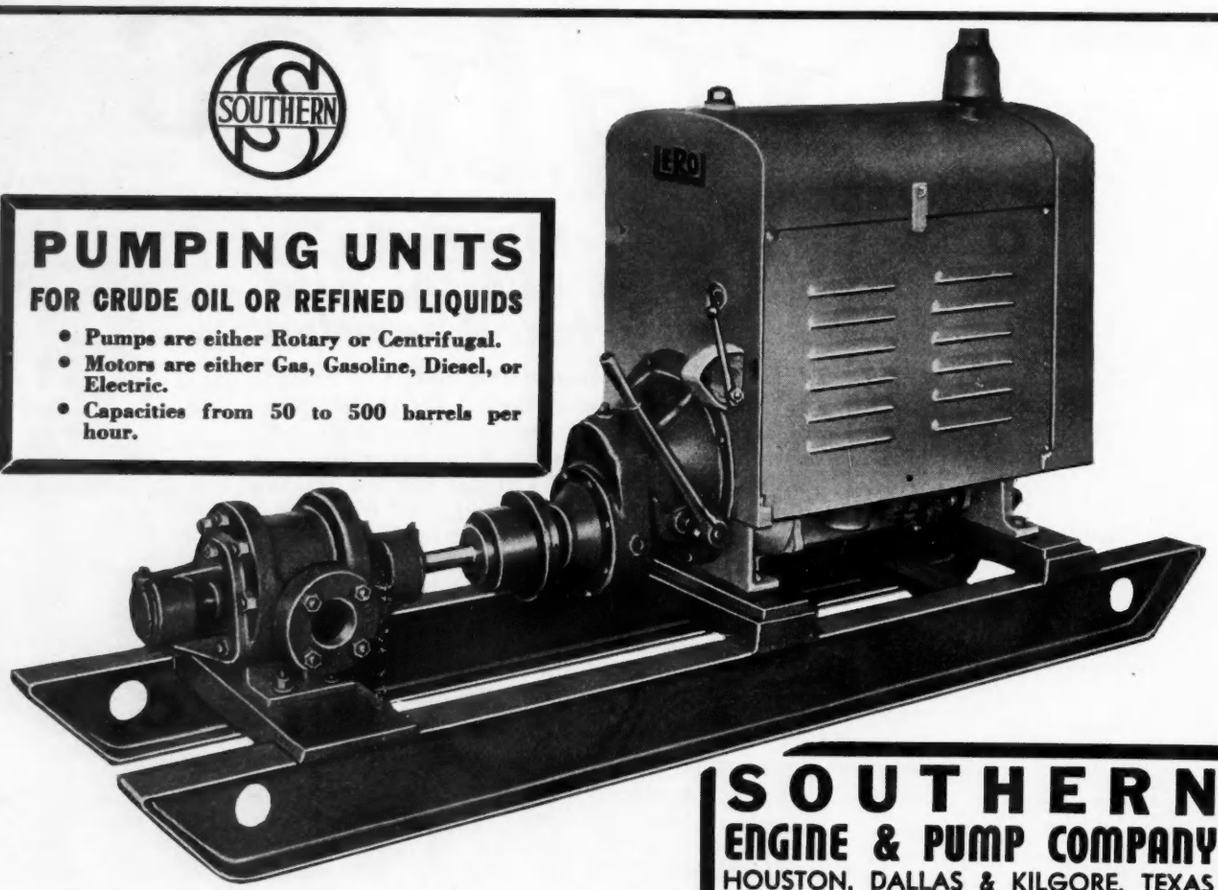

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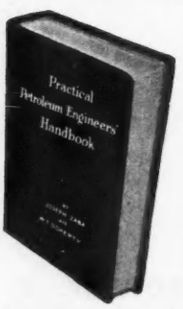

By
JOSEPH ZABA
E. M. M. Sc.
Petroleum Engineer
Rio Bravo Oil Company
and
W. T. DOHERTY
Division Superintendent, Humble Oil & Refining Company.

For a number of years there has been a growing demand for a handbook containing formulae and other practical information for the benefit of the man working in the production and drilling branches of the oil industry. So great has been this need that many engineers have tried to accumulate their own handbooks by clipping tables, formulae and figures from scores of sources.

The co-authors of this volume discovered by coincidence that each had been for a period of several years accumulating practical data which through their collaboration appears in this book. Both of them are men who have not only received theoretical training but who have had many years of practical experience as engineers in dealing with every day oil field drilling and production problems.

As a result of this collaboration of effort the publishers of this volume feel that it is a most valuable contribution to oil trade literature.

Its purposes are distinctly practical. The tables, formulae, and figures shown are practical rather than theoretical in nature. It should save the time of many a busy operator, engineer, superintendent, and foreman.

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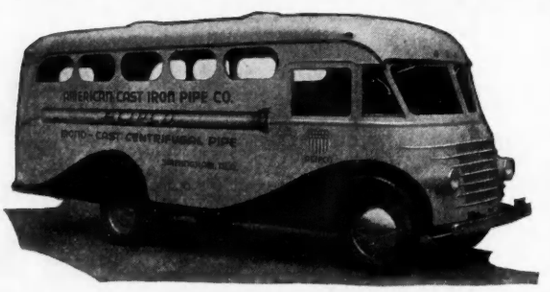

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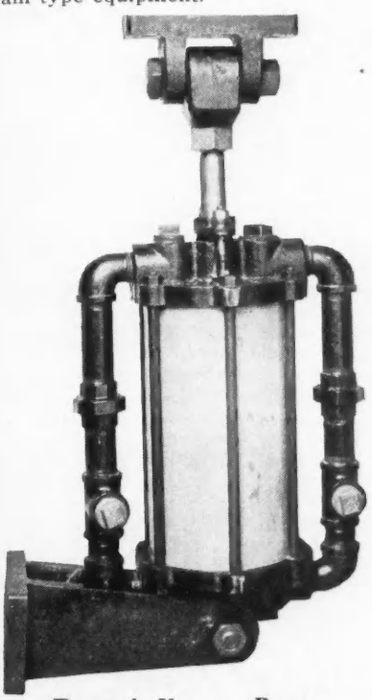
NOTES FOR THE Equipment Buyer and User

Vacuum Pump
FRANK MATHEY MACHINE WORKS

Frank Mathey Machine Works, 314 East Fourth Street, Tulsa, Oklahoma, has taken over the manufacture of Tommy's Vacuum Pump, a new device installed on any type pumping equipment to aid in the recovery of oil from pumping wells. The pump is anchored to the derrick leg or upright post and attached direct to pumping jack or by connecting rod with pumping unit or beam type equipment.



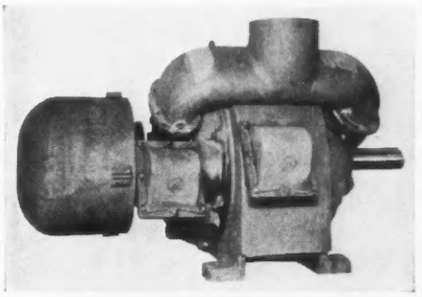
Tommy's Vacuum Pump

Tommy's Vacuum Pump is a double-acting pump placing constant, uniform vacuum on the well and pulling a vacuum of 20 to 26 points. The exhausts, being tied together, reclaims the gas for regular use. With the 8-inch size the pump will handle 50,000 feet of gas, and the 12-inch size will handle 100,000 feet of gas. The unit is easily installed and can be placed in operation in a few hours. It is furnished complete with unbreakable oil cups, special vacuum hose (6 feet long), and connecting joint for either jack or beam type pumping equipment.

Drawworks, Mud Pump and Table Motors
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

A complete line of wound-rotor alternating current drawworks, mud pump and table motors for oil well drilling is announced by Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania.

Of special interest in this new design



A newly designed protected collector assembly with liberal spacing of collector rings, liberal heat radiating surface, and a construction of enclosed rings and leads to withstand high operating temperatures are features of this Westinghouse forced ventilated mud pump motor.

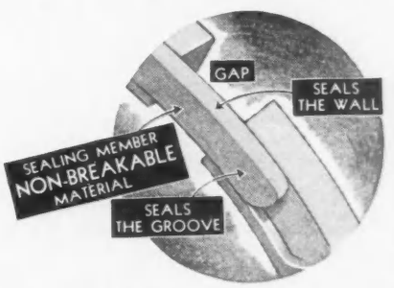
are a protected collector assembly with liberal spacing of collector rings, liberal heat radiating surface, and a construction of enclosed rings and leads to withstand high operating temperatures. These motors may be equipped with thermoguard to give protection against unsafe motor winding temperatures when motors are overloaded.

The standard line includes motors with gas protected collectors, and with frames of open type construction, or splashproof construction which may be arranged with or for forced ventilation. Time-tried Westinghouse features include rigid cast frame and end brackets, sealed-sleeve bearings, large conduit boxes and Tuffernell insulation.

Motors of the new design, with control of the open or protected, manual or magnetic type, are available in ratings of from 50 to 500 horsepower, three phase, 50-60 cycles.

Piston Ring
DOUBLE SEAL RING COMPANY

A new one-piece Double Seal Piston Ring with non-breakable sealing member is announced by Double Seal Ring Company, 2065 Montgomery Street, Fort Worth, Texas, claiming that it will not break in service, even when installed in badly worn and tapered cylinders or in engines requiring extremely narrow rings. The sealing member of the new ring is made of a specially developed non-breakable alloy, welded to the ring on one side of the gap and sliding snugly into a groove on the other side, producing a one-piece ring. Because of the greatly increased strength of the new alloy, the sealing member is made thinner with considerably less cross section.



It thus requires a shallower groove in the ring itself which materially lessens breakage at this point. The result is an improved ring with a much longer service life.

Rotary Chain
LINK-BELT COMPANY

Announcement is made by Link-Belt Company, Indianapolis, that in the process of further improving and extending its line of rotary drilling rig chains, it developed and is placing on the market a drop-forged side bar API-4 chain having an ultimate strength of 180,000 pounds, precision-built of durable alloy steels to American Petroleum Institute standards. It is to be known as Link-Belt Super Hyper API-4, and is announced as having the requisite qualities for combating the stresses and strains of today's and tomorrow's faster and deeper drilling.

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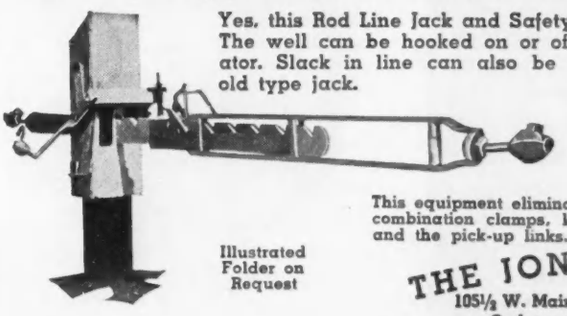

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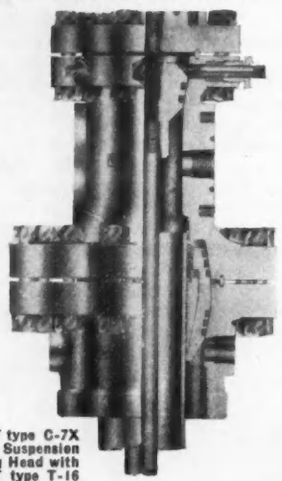

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Take valve cups, for example. They all look pretty much alike, but there must be some reason why men who try O'Bannon Cups come back for more—and tell us they get better runs.

It IS hard to explain. We can mention that O'Bannon Cups are absolutely uniform, accurate in all dimensions, and made of the finest materials—but you can convince yourself so much more conclusively by just using a few.

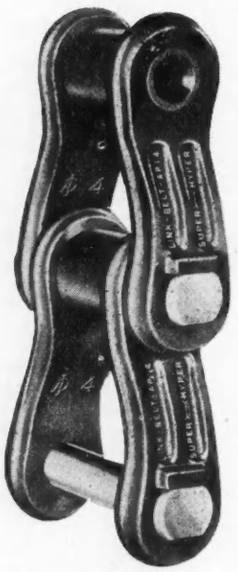
The next time you buy some, won't you ask for O'BANNON CUPS?

Made in Ft. Worth by

WALTER O'BANNON COMPANY

TULSA FORT WORTH

NOTES FOR THE Equipment Buyer and User



Link-Belt Chain

of bushing and chain fits, now assured by new, advanced methods of manufacture;

(3) press fits which make the assembled link an extremely rigid and durable unit.

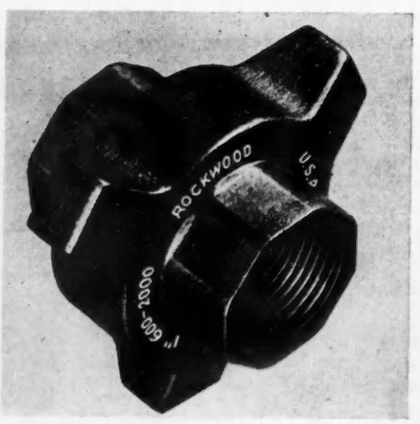
(4) Galling of chain joint forestalled, and longer chain life assured, by the lubricating qualities of cadmium plating on the pins, and by the smoothly ground bearing surfaces of the bushings being given a protective coating of oil before the bushings are assembled into links.

Further details of construction will be found in a new illustrated Folder No. 1713 which Link-Belt offers to send to any interested reader upon request.

Hammer Lug Unions

ROCKWOOD SPRINKLER COMPANY

Rockwood Sprinkler Company, Worchester, Massachusetts, has designed a special alloy steel screw-type union that can be made up or broken out by hammering protruding lugs on the collar of the union. The makers assert that the special temper carbon steels used in the manufacture have an ultimate strength of 85,000 pounds per square inch, a Brinell hardness of 190-200, and a resistance to corrosion twice that of forged steel. The unions will withstand hydraulic pressures to 2000 pounds per square inch and temperatures up to 900° F. All parts, including thread areas, are completely Parkerized. Sizes from 1 to 3-inch are available.



Rockwood Hammer Lug Union

Guiberson Corporation Wins Infringement Suit

A final decree handed down by the United States District Court for the Northern District of Texas, on March 13, exonerated The Guiberson Corporation of patent infringements, in connection with the design and manufacture of the new Guiberson drilling head, rotating blow-out preventer and stripper.

The suit claiming infringement was brought by Otis Pressure Control, Inc., MacClatchie Manufacturing Company, of California, and Herbert C. Otis. The decree stated that (1) patents to Collins 1560763, MacClatchie 1708316, and Otis 2052939 are not infringed by respondent (The Guiberson Corporation), and (2) that respondent is not guilty of unfair competition or bad faith against complainants.

The new Guiberson drilling head, subject of the suit, combines in one tool, a drilling head for drilling in under controlled pressure, a blowout preventer which rotates with the drill stem, and an oil saver and stripper.

Next time...

visit HOUSTON'S HOTEL OF LOW COST LUXURY

- Central Location
- 200 rooms with bath
- Circulating ice water
- Air-Cooled Coffee Shop
- Adjoining garage
- Rates only $2 and $2.50

J. S. MICKELSON, Manager

The SAM HOUSTON

HOUSTON, TEXAS

NOTES FOR THE Equipment Buyer and User

Allegheny-Ludlum Steel Moves Representative to Houston

Allegheny-Ludlum Steel Corporation has announced appointment of W. F. Pravel as district sales manager of the company's Houston territory effective as of April 1.

Pravel joined the company in 1934, locating in the St. Louis sales office. In 1937 he was moved to Dallas, Texas, where he remained until his new appointment.

Prior to coming to Allegheny, Mr. Pravel was connected with Benton & Anderson Company, Detroit, Michigan, and after this, served as Southwestern Manager of Ohio Seamless Tube Company, Shelby, Ohio.

Alexander E. Walker Elected President of Spang Chalfant

Alexander E. Walker, vice president and director of The National Supply Company, Pittsburgh, was elected president of Spang Chalfant, Inc., on April 8.

Previous to joining The National Supply Company organization, Walker served Pittsburgh Steel Company from January 1, 1937, as executive vice president. He first affiliated with the steel industry when he joined the sales staff

ALEXANDER E. WALKER
President, Spang Chalfant, Inc.

of Labells Iron Works, now the Steubenville Plant of Wheeling Steel Corporation, following his graduation from the Engineering Department of the University of Michigan in 1910. In 1916 he became a salesman for Republic Iron & Steel Company, now part of Republic Steel Corporation, and in 1919 was made assistant general manager of sales. From 1928 to 1936 he served Republic Steel Corporation as general manager of sales. In 1936 he became president of Truscon Steel Corporation.

Otis Pressure Control Company Moves I. A. Miller to Houston

I. A. Miller, sales engineer for Otis Pressure Control, Inc., has been transferred from Oklahoma City to Houston. Miller is pioneer in running and pulling tubing under pressure in high-pressure wells. A licensed engineer in Oklahoma, he has done missionary work on drilling in under pressure in the Fitz, Oklahoma City, Mansion, Edmond, Crescent and Moore areas.

Winstead to Direct "Oilwell" Sales in Midwest Division

K. B. Winstead, district sales manager in East Texas, North Louisiana and Arkansas District for Oil Well Supply Company, has been appointed sales manager of the Midwest division, succeeding George Hays, who was recently advanced to vice president. The Midwest division comprises all oil and gas producing regions west of the Mississippi River, including the Gulf Coast but excluding California. Winstead will

For QUICK, ACCURATE TESTS
Use CURTIN CENTRIFUGES

Simple in design . . . Ruggedly built . . . Require no special care . . . Gear Ratio and throw of crank produce required speed with no strain. Curtin Centrifuges meet all A.S.T.M. STANDARD METHOD D-96-35 and A.P.I. CODE NO. 25 requirements. Full descriptive literature upon request.

W·H·CURTIN & CO. Inc.
HOUSTON U·S·A. TEXAS

REED'S 'B-R' DRILLING BIT WITH WIRE LINE RETRACTABLE CORE BARREL

HARD FORMATION HEAD (Interchangeable with Soft Formation Head)

REED 'B-R' Drill Collar and 3-Blade Drilling Bit with Core Barrel in position

REED ROLLER BIT CO.

For Deep Wells

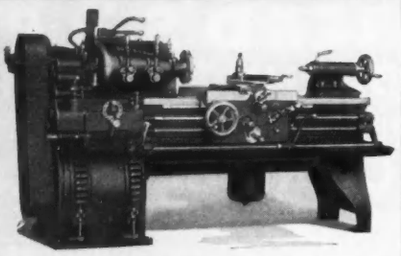
"They Can Take It" . .

Toughest materials, especially processed to meet rigid tests and backed by 27 years of valve and pump cup specializing — Dragon Cups *(Composition, Nobs* and *Leather)* are built to "take plenty of punishment," *saving your profits, time* and *nerves.*

For Shallow Wells

"On Duty or in Competition — Fearless As the Dragon"

The Dragon Mfg. Co.
Marietta, Ohio



New Landis 4¾ Receding Chaser Pipe Threading Machine

COMPLETE LINES

Machine Tools—Metal Working Machinery—Bolt and Pipe Threading Machines—Electric Arc Spot and Butt Welders—Hand Power and Electric Traveling Cranes—Foundry and Forge Shop Equipment

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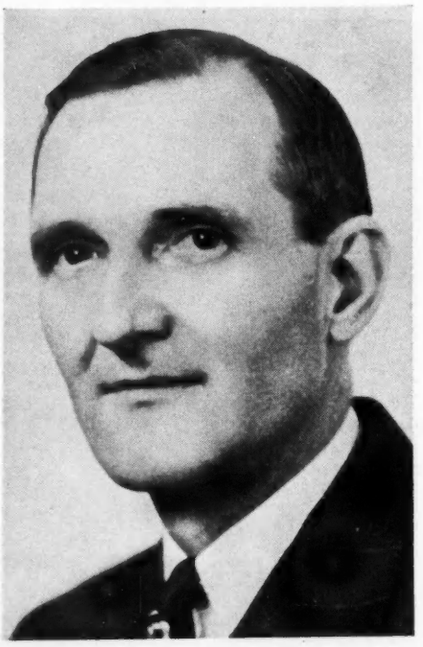
GAS AIR WATER
REPRESSURING
INSTALLATION OPERATION

PETROLEUM ENGINEER
JO H CABLE
WICHITA FALLS TEXAS

GAS MEASUREMENT PERMEABILITY
COMPRESSOR PLANTS POROSITY
BOTTOM HOLE PRESSURE SATURATION
GAS OIL RATIOS RECOVERABLE OIL
CONTROL OF FLOW THRU FORMATION

REGISTERED PROFESSIONAL ENGINEERS

NOTES FOR THE Equipment Buyer and User



K. B. WINSTEAD
New Director of Sales for Oil Well Supply Company's Midwest Division

make his headquarters at the Dallas, Texas, offices of the company.

Winstead's connection with Oil Well Supply Company dates from 1921 when he was associated with the company's Fort Worth, Texas, office. He subsequently served as store manager at Breckenridge, Texas, and then as manager of the North Texas district until 1932 when he moved to Shreveport, Louisiana, to assume charge of the East Texas, North Louisiana and Arkansas district.

National Supply Company Literature

National Supply Company, Toledo, Ohio, has published Bulletin No. 234 on the type C-100 power driven slush pump, a 6¼ x 10 pump with maximum of 100 hydraulic horsepower at 65 r.p.m.

Manning, Maxwell & Moore Appoints Two Texas Salesmen

Two new sales appointments to the Texas Oil district are announced by Manning, Maxwell & Moore, Inc., of Bridgeport, Connecticut.

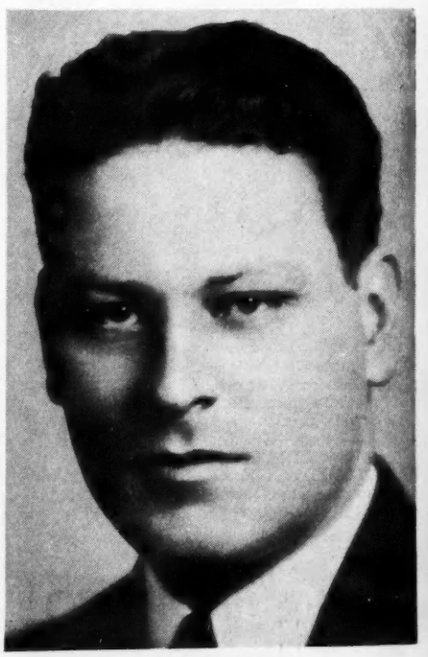
Fred Crabbe, who takes over the Midland territory, spent several years in chemical research with a Mid-Continent refinery. A graduate of Tulsa University and a life-long resident of this district, he is conversant with the Midland fields.

Carl Davis, who will contact the Houston area, has spent the past ten years in the petroleum industry. For several years he was representative for Joy & Cox of Denver, and more recently with Joseph A. Coy Company in Tulsa. He is a mechanical as well as a sales engineer.

Both men in taking over their new duties will sell all of the company products—Consolidated Safety and Relief Valves, Hancock Valves, Ashcroft Gauges and American Instruments.

C. R. MacBride Appointed to Byers Engineering Service

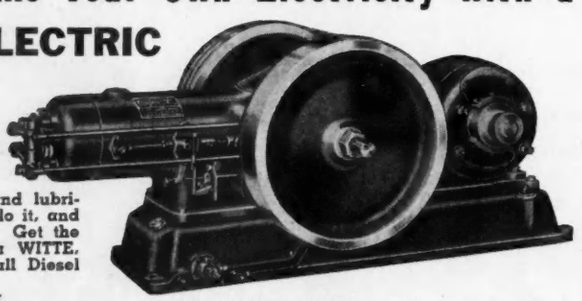
M. J. Czarniecki, vice president in charge of sales, A. M. Byers Company, Pittsburgh, announces the appointment, effective April 15, of C. R. MacBride as manager of the engineering service department. MacBride has been transferred from the Boston division sales office to assume his new duties. He was formerly with the Edgewater Steel Company.



C. R. MacBRIDE

To Be Sure, Make Your Own Electricity with a WITTE DIESELECTRIC

You don't need to think of high lines with a WITTE on the job. It is the direct line to low cost electricity wherever and whenever you want it. Fire hazards are reduced by use of low cost, non-explosive fuel. It is simple to operate—just feed her fuel and lubricant—almost any employee can do it, and then it can be almost forgotten. Get the facts on why it pays to buy a WITTE, built by the pioneer in the small Diesel field.



See Your Supply Dealer

WITTE ENGINE WORKS
1964 Oakland Ave. Kansas City, Mo.

1500 - 2500 - 5000 Watts Manual or Automatic Control.

Prices **$825** and up f.o.b. Kansas City, Mo.

MAKERS OF RELIABLE PRODUCTS SINCE 1870

NOTES FOR THE Equipment Buyer and User

L-K Pump Valve Company Appointed Rockwell Distributor

L-K Pump Valve Company, Houston, has recently been made distributor for cup leathers and rubber cementing washers manufactured by Rockwell Leather & Packing Company of Los Angeles. It will handle these products in all the United States east of the Rocky Mountains. A complete stock is being carried in the company's Houston warehouse.

The L-K Pump Valve Company is also distributor for the patented L-K rubber cementing plug.

Connors in Guanta on Pipe Line Project from Oficina

G. S. Connors, vice president and general manager, Williams Brothers Corporation, Tulsa, is in Guanta, on the coast of Venezuela, taking charge of the Oficina pipe line project of Mene Grande Oil Company.

Brown Appoints Owens for Cutting and Fishing Service

Brown Oil Tools, Inc., Houston, Texas, announces appointment, effective April 1, of Arch T. Owens to the field staff of special cutting and fishing tool operators, who are located in all active Gulf Coast fields. Owens has for the past 12 years represented the J. S. Abercrombie Company as a cutting tool operator, beginning in California in 1927. Previously he was a driller for Mexican Gulf Oil Company, in Tampico. He entered the oil business as a roughneck with Humble Oil & Refining Company, in Goose Creek, became a driller, and moved to Burkburnett field prior to going to Mexico.

ARCH OWENS

Succop Celebrates 25th Year as American Roller Bearing Head

On Saturday, April 15, friends and business associates of Clarence F. Succop celebrated his twenty-fifth anniversary as president of American Roller Bearing Company, Pittsburgh. Coincidentally, the occasion also marked his fiftieth birthday.

When Succop became president in 1914, American Roller Bearing Company had been operating for about six years. He made consistent improvements in the engineering and design of heavy-duty roller bearings, and introduced the company's products into many of the most important industries in the country, particularly in equipment used to produce oil and steel, and heavy-duty machinery of all types. Succop's engineering skill has contributed a valuable service to industry in general, in the advancement of equipment designed to meet the increasing demands of the heavy industries.

Prior to becoming president of American Roller Bearing Company, Succop was an engineer with General Electric Company, and subsequently sales manager of Ideal Electric Company, Mansfield, Ohio. He then became general manager of Ohio Sterling and Manufacturing Company, from which position he advanced to his present office.

CLARENCE F. SUCCOP

Technical Oil Tool Company Makes Personnel Changes

Bob Schmidt, a newcomer to the Technical Oil Tool Company, will have headquarters in Odessa to serve the West Texas and New Mexico territory. Schmidt replaces H. H. (Pete) Peters who has been transferred to California

Standco
NO-SMOKE
STANDCO BRAKE LINING
for the easiest brake known. It "feeds off" evenly. Standco never scores brake rims. See page 2100, Composite Catalog.
Standco Brake Lining Co.
HOUSTON, TEXAS

BARGAINS
in first class used Oil Field Machinery of all kinds.
WE ALSO BUY OR TRADE
Highest prices paid for
PIPE PROTECTORS
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N. Perel, Manager

PAUL B. WILLIAMSON
GEOLOGY GEOPHYSICS APPRAISALS
20 years research and field in Gulf Coastal Plain. 10 years in Louisiana, Mississippi and Alabama. Phone: MAgnolia 5339.
405-408 Queen and Crescent Bldg.
New Orleans, La.

See the New No. 310A

at Booth 312 Houston Oil Show

SIMPLEX JACKS Get Things Done in the Oil Fields!
They lower costs by doing every pushing, pulling, skidding and lifting job faster, easier, safer. They reduce man-hours by increasing man-power on drilling, skidding rigs, leveling boilers, unloading equipment, shifting line pipe and other jacking jobs.
Jacks up to 50 tons capacity for every oil field requirement.
Ask for Form Oil-39 which completely illustrates and describes the new No. 310A Emergency Jack, Pull Rod Jacks, Adjustable Boiler Supports, Riggers Jacks and Jacks for every oil field purpose.
TEMPLETON, KENLY & CO., Chicago
SIMPLEX
GOLD MEDAL AWARD SAFETY JACKS

NOTES FOR THE Equipment Buyer and User

as representative in the Los Angeles Basin and Coastal fields.

Paul Diemer, of the same organization, will make his headquarters in Corpus Christi as the first full-time representative of Technical Oil Tool Company in the South Texas area.

The Guiberson Corporation Changes Executive Personnel

S. A. Guiberson, Jr., has announced, on the occasion of the twentieth birthday of The Guiberson Corporation, a complete revamping of the executive make-up of that company. His oldest son, S. A. Guiberson III, becomes president, his son Gordon G. Guiberson, executive vice president and general manager. S. A. Guiberson, Jr., remains chairman of the board, and his brother, N. G. (Nat) Guiberson, remains vice president.

S. A. (Allen) Guiberson III has served the corporation for a number of years as vice president in charge of the Diesel engine department, while Gordon G. Guiberson advances to the general management from the position of general sales manager, which he has held for the past two years.

Other important appointments are those of H. M. Haseltine who has served as general manager for the past two years, as assistant to the president; M. W. Mattison, as treasurer and comptroller; H. U. Garrett, from assistant sales manager to general sales manager; and R. D. Wallis, who has been with the company's accounting department sinces its founding, to secretary and assistant treasurer.

S. A. Guiberson, Jr., founder of The Guiberson Corporation, is one of the outstanding oil pioneers. He went to work in the oil industry at the age of twenty, serving successively as rig builder, tool dresser, driller, pipe line builder, pipe line superintendent, and field superintendent. After 16 years in the business he became a producer. He was one of the original locators in the Big Muddy field of Wyoming, drilled the original discovery well in the Vernon Oil field, in Texas, owns production and royalty interests in California, Wyoming, Texas, Oklahoma, Kansas, Arkansas and Louisiana.

His principal individual oil interests are in East Texas, operated as the Guiberson Oil Company. He is president, also, of Home Ranch Petroleum Company, which owns production on part of the California property on which he was born. His heaviest interests are in the Superior Oil Company of California, of which he has been a director since shortly after its incorporation.

He is president of Guiberson Diesel Engine Company, 90 percent owned by The Guiberson Corporation.

A-1 Bit Company Appoints Foreign Representatives

J. E. Douglas, formerly drilling superintendent of Huasteca Petroleum Corporation in Mexico, associated with

J. E. DOUGLAS
Foreign Representative, A-1 Bit Company

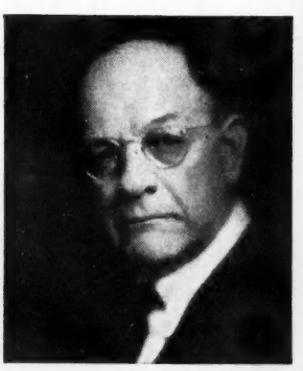
O. L. Garrett, formerly machinery representative of American Iron & Machine Works Company in the Gulf Coast, have been appointed foreign representatives of A-1 Bit Company.

They will leave Houston immediate-

GORDON G. GUIBERSON

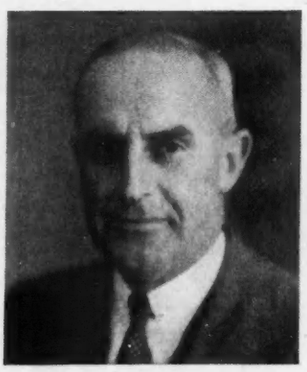
S. A. GUIBERSON, JR.

S. A. GUIBERSON, III

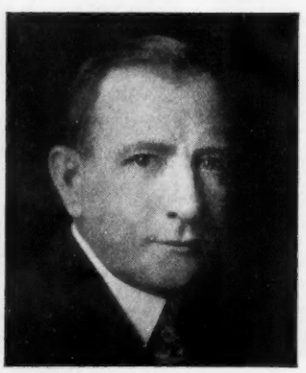


N. G. GUIBERSON

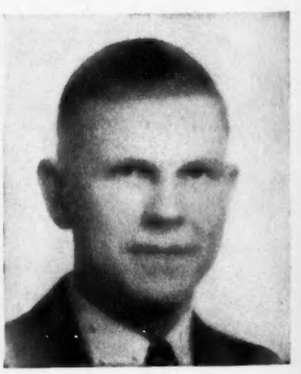
H. U. GARRETT



H. M. HAZELTINE



M. W. MATTISON

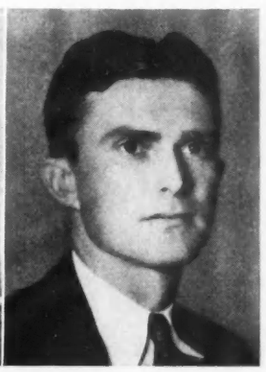


R. D. WALLIS

NOTES FOR THE Equipment Buyer and User

PAUL DIEMER

BOB SCHMIDT



H. H. PETERS

ly after the close of the Oil-World Exposition for Venezuela and other points in South America. South American headquarters will be announced later.

Frank Doyle to Waukesha Motor West Coast Branch

Frank W. Doyle, member of the Waukesha Motor Company sales staff for the past three years, has been appointed to the West Coast branch where he will represent both the engine and refrigeration divisions of the company.

Lou Bronzan Promoted in Baash-Ross Sales Organization

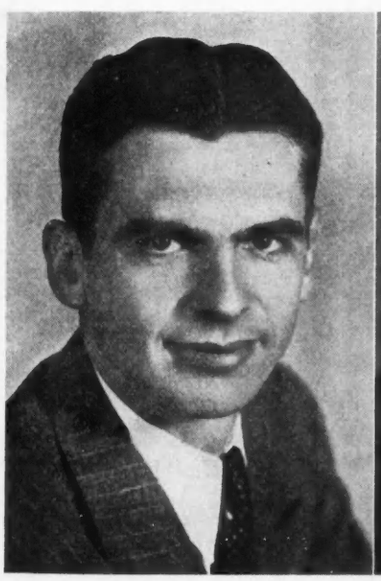
B. (Lou) Bronzan, former assistant sales manager of Baash-Ross Tool Company, has been appointed sales manager of the company. Bronzan, who started with the company 10 years ago in the production department, will have complete charge of all of the sales activities, both domestic and export. His headquarters will be at Los Angeles.

Harley J. Craig, for 15 years with Baash-Ross Tool Company, has recently been made general manager of the Mid-Continent division, with headquarters in Houston.

President Warner & Swasey Company Dies at Cleveland

Philip E. Bliss, president of The Warner & Swasey Company, Cleveland, since 1928, died April 11. At his desk the week before, he entered the hospital over the week-end for the treatment of a heart ailment.

Bliss entered the employ of The Warner & Swasey Company in 1910 as a junior clerk in the accounting department, advanced to auditor, later became the company's treasurer; in 1924 was made a vice president, and in 1928 succeeded Frank A. Scott as president.



B. (LOU) BRONZAN

HARLEY CRAIG

The far-sighted man takes no chances . . . he plays safe and insures the comfort and safety of his later years. Drilling operators, likewise, play safe by standardizing on CHIKSAN All-Steel Rotary Hose.

SAFETY WITH FLEXIBILITY

CHIKSAN All-Steel Rotary Hose combines light weight, unlimited flexibility with the permanence of steel . . . a combination that does not deteriorate with age or with climatic conditions . . . and that means longer, safer service at no extra cost.

STANDARDIZE ON CHIKSAN ALL-STEEL ROTARY HOSE

CHIKSAN BALL BEARING SWING JOINTS

CHIKSAN OIL TOOL CO., LTD.

FULLERTON, CALIFORNIA

HEAVY DUTY REAMERS
STANDARD REAMERS
THREE-WAY DISC BIT
CIRCULATING HEADS
MUD GUNS
BALL BEARING SWING JOINTS for ALL PURPOSES

"I'll Say!"

MILLER
Increases Production

That's the verdict of oil men throughout the World, who are daily increasing production with MILLER Sand Pumps.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● BAILER BOTTOM
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● SAND BOTTOM
Used when tools are run and when well is shot to quickly remove loose material.

● STAR BOTTOM
Used for cutting the sand loose.

● CHISEL BOTTOM
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Pages 1564-65 COMPOSITE CATALOG

PATENTS
NO. 1370560
NO. 1523408
NO. 1787390
NO. 1862648
NO. 1966020
NO. 2054467

MILLER
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Okla.	Texas	Texas
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FOR SALE BY SUPPLY STORES EVERYWHERE

Squeaks from the Bull Wheel

Smart Aleck

"Do you keep fountain pens?" asked the timid-looking man.

"Nope," replied the smart alecky clerk, "we sell 'em."

"Well, anyway you are going to keep the one you might have sold me."

Double Trouble

Customer (to grocer): "Why Mr. Snookums, you grow dearer and dearer!"

Mr. Snookums: "Ssh! Here comes the wife."

Wingless Carriage

"Was I driving too fast?"

"Heck, no. You were flying too low."

New Job

"Our friend Dodge tells me that he is doing settlement work lately."

"Yes, his creditors finally cornered him."

Keeping Up

"I wonder why it is we can't save anything."

"It's the neighbors, dear; they are always doing something we can't afford."

Hubbard Boarding House

"I've seen a large mouse in the pantry. What shall I do?"

"Shut the door and let it starve to death!"

Divorce Granted

"So you deceived your husband?"

"On the contrary, Judge, he deceived me. He said he was going out of town and didn't go.

Bright Pupil

"What happened in the year 1809?"

"Lincoln was born."

"Correct. Now what happened in 1812?"

"Lincoln had his third birthday."

First Things First

"Hurry—you know we are dining with the MacTavishes this evening."

"All right, let's eat dinner and be on our way."

Experienced

"Maria carries her age well, doesn't she?"

"She ought to. She has had long years of experience."

Logic

"How could you swindle people who trusted in you?"

"But, Judge, people who don't trust you can't be swindled."

Easy

"Can I lead a good Christian life in New York City on $15 a week?"

"My boy, you cannot do anything else on $15 a week."

Sound Reasoning

I broke off my engagement with George because my feelings were no longer the same as when I accepted him.

Yes? Then why do you keep his engagement ring?

Because my feelings toward the ring are unchanged.

Last Laugh

"I wouldn't vote for you if you were the Angel Gabriel."

"If I were the Angel Gabriel, you wouldn't even be in my precinct."

Calculated

"And upon what income do you propose to support my daughter?"

"Five thousand a year."

"Oh, I see. Then, with her private income of five thousand a——"

"I've counted that in."

Pulling Power

"Choir practice was out early tonight, wasn't it? How did it happen?"

"Oh, somebody blew an auto horn outside and a minute later the male quartet was all that was left."

WANTED

College graduate, Mechanical or Petroleum Engineer, with not less than five (5) years' practical experience in production engineering. Opportunity for man with sales and executive ability to become district manager.

State education, practical experience, and salary expected. Enclose small photograph. Applications will be treated confidentially.

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